

LF MOVEMENT, LICENSING, AND CLAUSAL STRUCTURE  
IN KOREAN

By

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A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL  
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

1993

## ACKNOWLEDGEMENTS

I can never fully express my sincere appreciation to the wonderful people who have had an effect on me in writing this dissertation. However, it is my pleasure to express my gratitude to my supervisory committee: Gary Miller, Mohammad Mohammad, Enrique Mallén, Andrea Tyler, and Paul Chun. First and foremost, I would like to express deep appreciation to my dissertation advisor, Gary Miller, from the bottom of my heart. He provided me with insightful comments, suggestions, and feedback that have been invaluable in this dissertation in one way or another. Without his help and guidance, this dissertation would never have been possible. I hope that in the future I share with my students the same thirst for knowledge he has given to me. I would like to thank the other members of my committee. I have benefitted greatly from Mohammad Mohammad for his critical questions and comments that helped me clarify my thoughts. He taught me how to be careful in using relevant examples for arguments. Enrique Mallén has always encouraged me and helped me think carefully whenever I came up with seemingly unrelated matters. Andrea Tyler has taught me how to think carefully and urged me to relate arguments, and pursue consequences for every argument. She has always been available whenever I needed her. Special

thanks also go to Paul Chun who gave me constant encouragement and comments on stylistic and grammatical errors.

Other faculty members in the linguistics department supported me directly and indirectly. First of all, I would like to thank Jean Casagrande who has given me the opportunity to study linguistics on an assistantship. He has been more than just an outstanding professor; he was always caring, and ready to offer help in every possible way. I must express my sincere gratitude to my former advisor, John Lipski, who gave me valuable advice and constant encouragement. I have also benefitted greatly from William Sullivan who taught me academically and nonacademically. Thanks go to Ann Wehmeyer who provided me with several papers. I would like to thank other faculty members: Chauncey C. Chu, Martha J. Hardman, and Anne Wyatt-Brown. I am proud to have taught Korean as a consultant to Dr. Hardman's class, 'Linguistic Field Methods' in the spring semester of 1993.

I am especially grateful to my former professors at Pusan National University in Korea: professors Jong Tae Kim, Young Kyoung Bae, Dong Hwan An, Jung Hun Ahn, Doo Sang Cho, Jun Young Choe, Won Kug Lee, and Sang Do Lee for their lectures on linguistics and their encouragement throughout my undergraduate and Master's programs at Pusan National University and even during my doctoral program at the University of Florida, and professors Kyu Shik Hwang, Ki Jong Hong, Kye Min Kim, In Bo Shim, Jin Nong Jung, Sang Koo Kim,

Yeop Kang, Suk Ki Ko, and Hwa Young Yoon for getting me interested in English and American literature. My grateful thanks go to all of them for their introduction to the various fields of linguistics and literature which have influenced my life. I am grateful to my M.A. advisor, professor Jong Tae Kim, who provided warm encouragement whenever I needed it. I especially thank professor Dong Hwan An, whose detailed and exciting classes helped me plunge into the principles and parameters framework. I have been real lucky to have him as my professor at Pusan National University. He always encouraged me to pursue a Ph.D. degree in linguistics and has treated me with warm care. I am indebted to professor Jung Hun Ahn, who taught me the introductory course in linguistics, 'Introduction to Linguistics' (Fall, 1981) and 'English Composition'. Special thanks also go to professor Doo Sang Cho, who provided constant encouragement. His class on 'History of the English Language' made it much easier for me to keep up with the course 'History of Linguistics' in the fall of 1991. I would like to thank professor Sang Do Lee for his constant encouragement and warm care.

I have benefitted greatly from friendships and discussions with my fellow students in linguistics: among whom are Sylvia Ashwell, John Bro, Paul Calvert, Lynne Harshman, Hye-Ryun Kim, Jin Kyoung Kim, Georgia League, Hyeran Lee, Inwoo Lee, Le Ning Liu, Gwena McGehee, Beatrice Morini, Michelle Person, JoEllen Simpson, and Beom Yoo. I am grateful



to Gwena McGehee, who helped me improve my teaching skills. Thanks go to Michelle Person for her keen insights on linguistics and cultures. I am especially indebted to Sylvia Ashwell and Paul Calvert for correcting some of my stylistic and grammatical errors.

Outside the linguistics department in Gainesville, I thank Jai-Hyoung Cho, Sea-Eun Jhang, Jae Yoon Kim, Tong Kug Kim, Young Hwan Kim, In Que Lee, Myung-Kwan Park, and KeunWon Sohn for the papers they sent me and the valuable discussions I had with them. I want to express my gratitude to Soon Rae Lee and his wife, and Jeongmok Kim and his wife for their friendship and help. I thank them for the dinners while my wife was absent.

No words can adequately express my sincere appreciation for my family and relatives. Many thanks go to my brothers, sisters, brothers-in-law, and sisters-in-law. I give special thanks to my brothers, Pyung Jin Kwon and Ki Jin Kwon, for their moral and financial support. I owe a great deal to my mother Hae Jung Yang who has encouraged me to pursue the doctorate. She has always served me with endless love and quiet sacrifice, like a candle. I deeply appreciate my parents-in-law, Sun Hwan Bae and Kwang Ja Dong, who have loved me as if I were their own son. Their constant encouragement and financial support made my education a reality. I am especially grateful to my mother-in-law for raising my son, Tae Min, and to my son for growing up healthy in my absence.

Last but far from least, I would like to thank my wife, Hyoun-Joo Bae, for her sincere love and patience. Her constant moral support and long perseverance made this dissertation possible. Perhaps now that it is completed I can become a better husband and father. I dedicate this dissertation to my parents and to my wife as a small token of my love and gratitude.

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Abstract of Dissertation Presented to the Graduate School  
of the University of Florida in Partial Fulfillment of the  
Requirements for the Degree of Doctor of Philosophy

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August, 1993

Chairman: D. Gary Miller  
Major Department: Linguistics

This dissertation investigates LF movement, licensing, and clausal structure in Korean. The investigation is within the framework of the principles and parameters approach and pursues some theoretical consequences.

The previous analyses on the split INFL hypothesis and the VP-internal subject hypothesis, which play a crucial role in accounting for the clausal structure and the licensing of negative polarity items (NPIs) in Korean, are reviewed.

In accordance with checking theory, it is suggested that subjects and objects move to the Spec of  $AGR_sP$  and  $AGR_oP$ , respectively, to check Case via Spec-Head agreement. Numerous evidence is provided to substantiate the claim that CP, NegP, and AGRP are independent maximal projections, suggesting the postulation of the split INFL structure in Korean.

Coordination facts are adduced to show that AGRP and NegP are independent maximal projections.

Distributional differences between English and Korean NPIs are discussed. It is proposed that the contrast with respect to the locality constraints and restrictions imposed on NPIs can be reduced to a more general condition on feature checking theory at LF, with well-motivated principles such as chain condition and binding theory. The thrust of this proposal is evidenced by the fact that long-distance licensing of NPIs is subject to constraints such as the Complex NP constraint. Distributional differences between scrambled and nonscrambled NPIs in Korean are accounted for by this analysis.

The reconstruction effects of NP-movement with respect to binding theory and scope interpretation are examined. Regarding peculiarities of psych-verb constructions, it is argued that the theme NP is reconstructed to its D-structure position. An empirical consequence is presented in reconstruction of NP-movement in the caki 'self'-compound, suggesting some interaction between morphology and syntax. Finally, it is claimed that NP-movement can be freely reconstructed at LF.

## CHAPTER 1 INTRODUCTION

This dissertation investigates clausal structure, negative polarity items (NPIs), and verbal projections in Korean, which are important issues in Korean linguistics. This study is based on the framework of the principles and parameters approach to linguistic theory, which was originally proposed in Chomsky (1981) and refined in his subsequent works such as Chomsky (1982, 1986a, 1986b, 1989, 1991, and 1992), among others. I explore some theoretical consequences for clausal structure in Korean by adopting two recent proposals: the split INFL hypothesis and the VP-internal subject hypothesis.

This dissertation is organized as follows: chapter 2 reviews the previous analyses on  $X^0$ -movement, the split INFL hypothesis proposed by Pollock (1989), Chomsky (1989, 1991, and 1992) and Pesetsky (1989), and the VP-internal subject hypothesis, which play a crucial role in discussing LF movement, licensing, and clausal structures of Korean. The strength and weakness of each proposal will be compared and some potential problems will be presented. I adopt the VP-internal subject hypothesis to provide a more plausible analysis of Korean (Chomsky (1992), Fukui and Speas (1986),



Koopman and Sportiche (1988, 1991), Kuroda (1988), and Miller (1993), among others). Furthermore, several conceptual and empirical arguments for this hypothesis will be provided. In this chapter, several distinctions between individual-level predicates and stage-level predicates will be made. I argue, based on distinctions between two predicates, that the two S-structure subject positions, i.e., the Spec of TP and the Spec of VP, are indispensable in dealing with different readings. This in turn suggests the postulation of VP-internal subject position.

Following Chomsky (1989, 1991, and 1992) and Pollock (1989), chapter 3 is devoted to issues related to functional categories and clausal structure in Korean. Several pieces of evidence will be provided for positing AGR as a syntactic category in Korean. Further, I suggest that the honorific marker -si and the plural marker -tul are realizations of [+AGR] in Korean (Choe (1988), Yoon (1990)). It will be argued that subjects and objects are base-generated VP-internally and move to the Spec of AGR<sub>S</sub>P and AGR<sub>O</sub>P, respectively, to check Case through Spec-Head agreement (Chomsky (1992)). On the basis of several facts such as Subjacency effects, scope interaction, and Spec-Head agreement, I suggest that C is an independent syntactic head in Korean.

Furthermore, I provide crucial evidence supporting verb movement and the split INFL hypothesis by examining two types of negation in Korean. Consider the following examples:

- (1) a. *sensayngnim-i haksayng-ul ani manna-si-ess-ta*  
 teacher-Nom student-Acc not meet-Hon-Past-Dec  
 'A teacher did not meet a student.'
- b. *sensayngnim-i haksayng-ul manna-si-ci ani-ha-ess-ta*  
 teacher-Nom student-Acc meet-Hon-Nomi not-do-Past-Dec  
 'A teacher did not meet a student.'

Comparing (1a) with (1b), I argue that the verb optionally raises to Tense (=T) in Korean. (1a) shows that verb movement, as in French, is allowed over negation. However, as in English, with the verb in situ, HA 'DO'-Support is invoked in (1b). HA-Support poses a question as to why verb movement over negation is allowed in Korean. The LF-movement of the complex verb to T over negation might violate the ECP due to the minimality condition. Assuming that an element deletes at LF if it does not play a role at that level (Chomsky (1989, 1991)), I account for (1b) in the following manner: at LF, expletive HA is replaced by the complex verb, [<sub>AGR</sub> manna<sub>1</sub>-si], and then the trace of the complex verb, without having semantic content, will be deleted. The deletion of this trace avoids a potential violation of the ECP. Therefore, I argue that two types of negation in Korean are attributed to the AGRP being separated from TP. That is, the presence of AGRP and NegP provides a plausible analysis to the two positions of negation. Hence, two types of negation in Korean provide crucial evidence for the split INFL hypothesis.

Finally, based on coordination facts, I argue that AGRP and NegP are independent maximal projections of functional

categories and suggest that interaction between active and passive verbs can be accounted for by adopting the VP-internal subject hypothesis.

Chapter 4 is devoted to the distributional differences between English NPIs and Korean NPIs in terms of checking theory (Chomsky (1992)). Although the presence of negation plays a crucial role in licensing NPIs, languages differ with respect to restrictions imposed on subjects. Consider the following paradigm:.

(2) a. \*Anyone did not meet John.

b. amwuto John-ul manna-ci      ani-ha-ess-ta  
     anyone      -Acc meet-Nominal not-do-Past-Dec

`\*Anyone did not meet John.'

In the English example in (2a), negation does not license the subject NPI, while in its Korean counterpart in (2b), negation licenses the subject NPI.

Furthermore, languages differ with respect to the distance allowed between negation and the NPI, as illustrated in the following contrast:

(3) a. Karen doesn't think that anyone will find the ring.

b. \*Karen-i [amwuto panci-lul chacul-kesi-ta-ko]  
     -Nom anyone ring-Acc find-Fut-Dec-Comp

sayngkakha-ci ani-ha-ess-ta  
     think-Nominal not-do-Past-Dec

`Karen doesn't think that anyone will find the ring.'

As seen in (3a), the relation between negation and NPIs in English can be unbounded. However, in contrast with the English (3a), the Korean example in (3b) is ungrammatical. Thus, it is said that the distance between negation and amwuto 'anyone' should be local. In other words, negation and NPIs in Korean should occur in the same clause, which is called a clause-mate requirement (Choe (1988)). The grammatical distinction observed in (2) and (3) does not follow from the alleged c-command requirement at S-structure as the NPI licensing condition.

To address this potential problem, I argue that the contrast between English and Korean NPIs can be reduced to a more general condition on feature checking theory at LF (Chomsky (1992)), with independently motivated principles such as chain condition (Chomsky (1986b)), binding condition (C) of the binding theory, and the Extended Uniformity condition (Lasnik and Saito (1992)). To be more specific, I will propose an alternative analysis of the NPI licensing condition as follows:

#### (4) NPI Licensing Condition

NPIs are licensed through Spec-Head agreement at LF.

In accordance with checking theory, the NPI licensing condition in (4) amounts to saying that the NPI with an inherent morphological feature [+Neg] must move to the Spec of

NegP to be feature checked off through Spec-Head agreement with ani 'not', which is in the head of NegP.

Furthermore, I will argue that the distributional differences between scrambled and nonscrambled NPIs in Korean can be accounted for in terms of the proposed analysis, assuming that scrambling can be freely undone at LF (Saito (1989, 1992)). Finally, I provide crucial evidence that long-distance licensing of NPIs obeys some constraints such as the Complex NP constraint, the Specificity condition, and the Wh-island constraint. This strongly supports a movement analysis of NPIs based on the checking theory.

Chapter 5 investigates reconstruction effects of NP-movement with respect to binding theory and scope interpretation. Reconstruction was originally associated with A'-movement, as the following example shows:

- (5) [Which pictures of himself<sub>i</sub>]<sub>j</sub> does John<sub>i</sub> like t<sub>j</sub>?

In (5), it was argued that himself is bound by the subject NP John after the moved phrase is reconstructed. However, it has been observed that VP-movement exhibits a narrower range of reconstruction possibilities than wh-movement (Huang (1993), Mitchell (1993)). Consider the following examples:

- (6) a. [Criticize himself<sub>\*i/j</sub>]<sub>k</sub>, John<sub>i</sub> thought Bill<sub>j</sub> would not t<sub>k</sub>.  
       b. [Which picture of himself<sub>i/j</sub>]<sub>k</sub>, did John<sub>i</sub> think Bill<sub>j</sub> saw t<sub>k</sub>?

As seen in (6), whenever a predicate is moved, reconstruction possibilities are more limited than those when an argument is moved. To account for the contrast, following Huang (1993) and Mitchell (1993), I suggest that what is fronted in VP-fronting is not the bare VP, but the VoiceP (=Voice Phrase). Further, it will be suggested that the fronted VoiceP contains the trace of the subject left by the movement, while the fronted argument contains no such trace (Huang (1993), Mitchell (1993)).

Additionally, this chapter examines the reconstruction possibilities with respect to binding theory and scope interpretation in psych-verb constructions. I argue, following Belletti and Rizzi (1988, 1991), that peculiar binding effects in psych-verb constructions can be accounted for by saying that the theme NP is reconstructed to its D-structure position. Along this line, I will provide empirical consequences of the reconstruction of NP-movement in the caki 'self'-compound in Korean. That is, I argue that word formation is not a separate component from syntax, but rather the same principles and parameters account for both above and below word level (Baker (1988), Lieber (1992), Miller (1993), Sproat (1985), and Walinska de Hackbeil (1986)).

Finally, it will be suggested that NP-movement can be freely reconstructed at LF (Deprez (1989)), since it is semantically vacuous, as argued by Saito (1989, 1992) in the case of scrambling. Moreover, I argue that both short- and

long-distance scrambling can be an instance of A-movement and that the so-called parasitic gap construction in Korean is analyzed as an instance of a binding relation via scrambling.

## CHAPTER 2 THEORETICAL BACKGROUND

### 2.1. Introduction

In this chapter, I am concerned with two recent proposals which are crucial throughout this dissertation: the Split INFL hypothesis and the VP-internal subject hypothesis.

This chapter is organized as follows: Section 2.2 reviews the split INFL hypothesis proposed by Pollock (1989), Chomsky (1989, 1991, and 1992) and Pesetsky (1989). In so doing, the strength and weakness of each proposal will be compared and some potential problems will be presented. In section 2.3, I introduce the VP-internal subject hypothesis to provide a more plausible analysis of linguistic phenomena which would encounter serious problems under previous analyses. Furthermore, several conceptual and empirical arguments for this hypothesis will be provided. In section 2.3.3, several distinctions between individual-level predicates and stage-level predicates will be made. Based on distinctions between the two predicates, it will be suggested that the two S-structure subject positions, i.e., the Spec of TP and the Spec of VP, are indispensable in dealing with different readings. This in turn suggests the postulation of the VP-internal subject position.



## 2.2. The Split INFL Hypothesis

### 2.2.1. Pollock (1989)

#### 2.2.1.1. Transparent vs Opaque Parameter

It has been observed that there are systematic differences between English and French with respect to negation, questions, adverbs, and floating quantifiers (Emonds (1976, 1978), Jackendoff (1972)). Emonds (1978) suggests that French has an obligatory rule of verb raising to Tense (Aux), while English has only a limited version of that rule (Have/Be raising). Pollock (1989) further raises interesting questions on comparative generalizations.

- (1) a. Why is verb raising movement to INFL lexically restricted in modern English?
  - a'. Why can't affix movement apply in French tensed clauses?
  - b. Why does UG (universal grammar) allow for affix movement, a lowering rule?
  - c. Why does the negative particle not block affix movement, whereas other (negative) adverbs do not?
  - d. Why is verb movement obligatory whenever it can apply?

In what follows, I discuss Pollock's views on these questions. Following Emonds (1976, 1978), Pollock (1989:367) argues that the respective scope of verb movement accounts for the minimal pairs in (2-4):

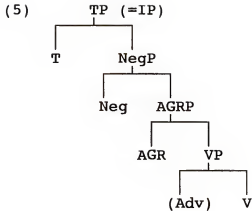
- (2) a. \*John likes not Mary.  
b. Jean (n') aime pas Marie.
- (3) a. \*Likes he Mary?  
b. Aime-t-il Marie?

- (4) a. \*John kisses often Mary.  
 b. Jean embrasse souvent Marie.  
 c. John often kisses Mary.  
 d. \*Jean souvent embrasse Marie.

Pollock argues that these differences stem from differences in the verb raising possibilities of the two languages. The example in (2a) is ruled out because the verb ends up in prenegative position, whereas the example in (2b) is acceptable since all lexical verbs undergo verb movement in French. Further, (3a) is ungrammatical because a lexical verb such as like cannot move to Tense (INFL). Therefore, (3b) is good for the same reason as (2b), i.e., lexical verbs move to Tense in French. The example in (4a) is ungrammatical since the verb cannot move to Tense.<sup>1</sup> On the other hand, (4b) is straightforwardly accounted for, since embrasser can move to Tense. (4d) can also be explained by the fact that verb movement to Tense in French is obligatory. Pollock gives a principled account for why all lexical verbs in French move to Tense, whereas they do not in English. To be more specific, he proposes the split structure of IP, which allows the functional categories of T, Neg, and AGR to be the heads of their own maximal projections, with T and AGR separated by NegP, as illustrated in (5):

---

<sup>1</sup> Pollock (1989) assumes that adverb movement to the right is not allowed in either French or English.



Pollock claims that different natures of AGR play a crucial role in distinguishing French and English. That is to say, AGR in English is opaque to  $\theta$ -role assignment in that the verb cannot transmit its ability to assign  $\theta$ -roles to the trace of the verb when it adjoins to the opaque AGR. Hence, the movement of  $\theta$ -assigning verbs to AGR in English is not allowed, since it would violate the  $\theta$ -Criterion in (6).

(6) Theta-Criterion (Chomsky (1981:36))

Each argument bears one and only one  $\theta$ -role, and each  $\theta$ -role is assigned to one and only one argument.

On the contrary, AGR in French is transparent to  $\theta$ -role assignment in that the verb adjoining to AGR transmits  $\theta$ -roles to the trace of the verb, after the verb has moved to AGR.

Pollock further suggests that only non- $\theta$ -assigning verbs, viz., auxiliary verbs, like have and be, can move to AGR in English because these verbs do not assign  $\theta$ -roles; hence the movement of these verbs to AGR would not violate the  $\theta$ -Criterion, as in (7):

- (7) a. John has lost his way.  
 b. John is singing.

So far, we have discussed that AGR in French is transparent so that all verbs including auxiliary verbs can move to AGR. On the other hand, AGR in English is opaque so that main verbs cannot move to AGR due to the  $\theta$ -Criterion, while auxiliary verbs can move to AGR and can further move up to Tense.

#### 2.2.1.2. Quantification Theory

As discussed in the previous section, the movement of main verbs to AGR is constrained by theta theory and the opaque nature of AGR. An immediate question Pollock raises is: why is verb movement obligatory whenever it is possible? As an answer to this question, Pollock (1989:392) assumes that [+finite] Tense (i.e., [ $\pm$ Past]) is an operator, which, like other operators, must bind a variable. Therefore, the movement of verbs to Tense in tensed clauses is obligatory in order to meet the ban on vacuous quantification. That is, under the assumption that Tense as an operator must bind a variable, the obligatoriness of verb movement to Tense in French can be explained. As pointed out by Pollock, however, theta theory forbids verb movement to Tense due to the opacity of English AGR. To obviate this contraction, Pollock argues that, in English, auxiliary verbs are generated beyond the VP

barrier to count as a substitute for the immovable main verb in the VP.

### 2.2.1.3. The Negative Particle "not" as Blocker

Pollock (1989:405) further observes that the negative particle not blocks affix movement, while other negative adverbs do not. To see the contrast, let us first consider the following sentences:

- (8) a. \*John not left.  
 b. \*John not leaves.  
 c. [<sub>TP</sub> John [<sub>TP</sub> [<sub>AGR<sub>i</sub></sub> [<sub>vi</sub>  $\emptyset$ ] AGR] T] [<sub>NegP</sub> not [<sub>AGRP</sub> e<sub>i</sub> [<sub>VP</sub> leav-]]]]]

Notice that (8c) is the LF-representation of (8a-b). In (8a) the NegP, being an inherent barrier<sup>2</sup>, cannot be L-marked by  $\emptyset$ , which is a nonlexical counterpart of 'do'. Hence, the trace of AGR is not antecedent governed and therefore results in a violation of the empty category principle (ECP).

On the other hand, other negative adverbs such as hardly cannot block affix movement, as illustrated in (9):

- (9) a. John hardly understands.  
 b. John never understands.  
 c. John seldom understands.  
 d. [<sub>TP</sub> John [<sub>TP</sub> [<sub>AGR<sub>i</sub></sub> [<sub>vi</sub>  $\emptyset$ ] AGR] T] [<sub>AGRP</sub> e<sub>i</sub> [<sub>VP</sub> Adv understand-]]]]]

---

<sup>2</sup> Pollock assumes that NegP is an inherent barrier, while AGRP is not.

The structure in (9c) is legitimate since AGRP, being a defective category, is by definition not an intrinsic barrier; hence, the ECP is respected.<sup>3</sup>

#### 2.2.1.4. Potential Problems

Pollock (1989:404) assumes that (11a-b) are essentially identical to (10a-b), respectively.

- (10) a. John left.  
b. John leaves.
- (11) a. John did leave.  
b. John does leave.

Pollock assumes that English has a nonlexical counterpart of do, which shares all properties of the lexical one. In particular, like do,  $\emptyset$  is generated under AGR and moves to Tense at S-structure. Therefore, the S-structure of (10) looks like (12):

- (12) [<sub>TP</sub> John [<sub>TI</sub> [<sub>AGRI</sub> [<sub>vi</sub>  $\emptyset$ ] AGR] T] [<sub>AGRP</sub>  $e_i$  [<sub>VP</sub> leave ]]]

The representation in (12) satisfies the ECP since AGRP is not an inherent barrier. Similarly, it satisfies quantification theory since [ $\pm$ Past] binds  $e_i$ . As Pollock notes, however, AGR and Tense morphemes must move to the lexical verb to yield the morphological unit leaves and left. As pointed out by Laka

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<sup>3</sup> Pollock assumes that negative adverbs such as never, hardly, and seldom are generated in the VP-internally. Furthermore, he assumes that AGRP, being defective nature, cannot be an inherent barrier, as in IP in Chomsky (1986b).

(1990), however, if this process called Affix Hopping (Chomsky (1957)) takes place at S-structure, it would violate the ECP, because the traces left by Tense and AGR cannot be antecedent governed. This Affix Hopping, i.e., lowering, is banned since this would violate the ECP.<sup>4</sup> Pollock, however, does not provide any specific answer to this problem.<sup>5</sup>

Another problem with Pollock's analysis, pointed out by Laka (1990), comes from cases involving lexical do in a simple declarative sentence, as seen below:

- (13) a. \*John did leave.  
 b. [<sub>TP</sub> John [<sub>Ti</sub> [<sub>AGRi</sub> [<sub>vi</sub> DO] AGR] T] [<sub>AGRP</sub> e<sub>i</sub> [<sub>VP</sub> leave ]]]

Recall that quantification theory is satisfied in that Tense binds a verbal variable left by [AGR + DO]. Similarly, the ECP is respected because there is no barrier between the antecedent and the trace. Therefore, under Pollock's account, (13) is wrongly predicted to be grammatical.

A more serious problem with Pollock's analysis comes from interaction between VP adverb and verb movement. Again consider the following sentences:

- (14) a. \*John kisses often Mary.  
 b. John often kisses Mary.

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<sup>4</sup> In fact, downward movement is not allowed in observance of the proper binding condition:

Traces must be bound. (Fiengo (1977))

<sup>5</sup> See section 2.2.2, 2.2.3 and 2.2.4 on this issue.

As discussed in section 2.2.1.1, under the assumption that VP adverbs such as often are adjoined to VP, Pollock argues that main verbs such as kiss, which is a thematic verb, cannot move to opaque AGR and consequently cannot move to Tense. Hence, the ill-formedness of (14a) is straightforwardly accounted for. As Pesetsky (1989) notes, however, adverbs can occur between verbs and PP objects, as shown in (15):

- (15) a. Bill INFL [knocked<sub>i</sub>] [<sub>vp</sub> recently t<sub>i</sub> on it].  
       b. Sue looked carefully at him.  
       c. Harry relies frequently on it. (Pesetsky (1989:28))

According to Pollock, the sentences in (15) are wrongly predicted to be ungrammatical, since thematic verbs such as knock cannot move to opaque AGR and therefore not to Tense. This seems to be a paradox. In other words, adverb placement in (14) involves I-to-V lowering, while adverb placement in (15) entails V-to-I raising. Put differently, AGR is opaque in (14) but transparent in (15).<sup>6</sup>

## 2.2.2. Chomsky (1989, 1991): Economy of Derivation

### 2.2.2.1. Principles of Economy

Following Pollock (1989), Chomsky (1989, 1991) argues that IP has a split structure where Tense and Agreement occupy separate and independent structural projections. Chomsky notes that universal grammar (UG) provides three possibilities: V-raising to INFL (V-to-I raising), INFL-

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<sup>6</sup> Benmamoun (1991) also notes this problem.



lowering to V (I-to-V lowering, Affix Hopping), and 'DO'-Support.

First of all, let us compare V-to-I raising and I-to-V lowering. Chomsky notes that V-to-I raising is necessary if it is possible. Consider the following French finite clauses:

- (16) a. Jean embrasse souvent Marie  
       `\*John kisses often Mary.'  
       b. \*Jean souvent embrasse Marie  
       `John often kisses Mary.'

The well-formedness of (16a) is straightforward since a verb embrasser moves to INFL (Tense). Furthermore, the ill-formedness of (16b) indicates that V-to-I raising in French finite clauses is obligatory. On the other hand, I-to-V lowering is chosen only when V-to-I raising is not available, as in English main verbs. Observe the following English sentences:

- (17) a. \*John kisses often Mary.  
       b. John often kisses Mary.  
       c. John completely lost his mind.

(17a) is excluded because the verb moves to Tense. Thus, the grammatical sentences are (17b-c) where Tense lowers to the verb. We can raise a question: why does V-to-I raising always take precedence over I-to-V lowering? Chomsky suggests that shorter derivations are always chosen over longer ones, which he calls the Least Effort Principle, as in (18):

(18) Least Effort Principle (Pesetsky (1989:1))

If two derivations from a given D-structure each yield legitimate outputs, and one contains more transformational steps than the other, only the shorter derivation is grammatical.

In accordance with the Least Effort principle in (18), the shorter derivation, i.e., V-to-I raising, is chosen. On the other hand, I-to-V lowering is chosen only when V-to-I raising is not available, as in English main verbs. According to Chomsky, the Least Effort principle requires that derivations and representations be minimal, that is, superfluous steps in derivations are eliminated, thus minimizing their length. This is in observance of the principle of Full Interpretation (Chomsky (1986a:98)), which stipulates that "every element of PF and LF must receive an appropriate interpretation."

Next, let us compare the derivation of I-to-V lowering and 'Do'-Support. In terms of the Least Effort principle, 'DO'-Support takes precedence over I-to-V lowering, since the former involves only one step, while the latter involves two steps. However, over and above the Least Effort principle, Chomsky distinguishes UG principles with language-particular ones, such that UG principles are "less costly" than language-particular ones, which is called the Last Resort principle. This principle is formulated as follows:

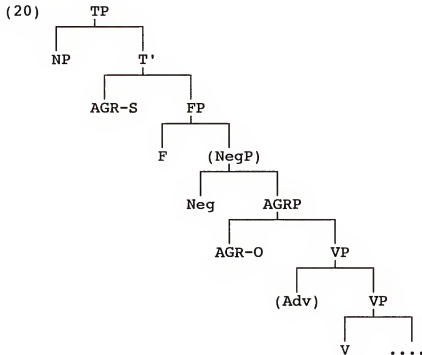
(19) Last Resort Principle (Chomsky (1991:427))

UG principles are applied wherever possible, with language-particular rules used only to "save" a D-Structure representation yielding no output.

In accord with the Last Resort principle in (19), a language-particular rule like 'DO'-Support is chosen only when neither V-to-I raising nor I-to-V lowering is possible.<sup>7</sup>

#### 2.2.2.2. The Split INFL Hypothesis

Following Pollock (1989), Chomsky (1991:434) suggests that the structure of IP is split into other functional categories such as TP, AGRP, and NegP, as shown in (20):



Given the structure in (20), Chomsky suggests that the verb is not a structural Case assigner; but structural Case is correlated with agreement and reflects a government relation between the NP and the appropriate AGR element. In other

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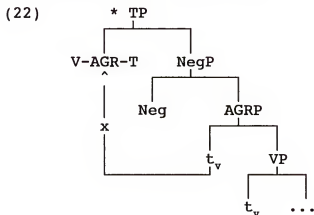
<sup>7</sup> Chomsky uses the term principle of Least Effort for both the Least Effort principle and the Last Resort principle.

words, structural Case is assigned under Spec-Head agreement with an AGR head. Thus, subject-verb agreement is associated with nominative Case, while verb-object is associated with accusative Case.

With this theoretical background, Chomsky (1989, 1991) tries to make an interesting prediction about the treatment of 'DO'-Support and negation. Consider the following sentences:

- (21) a. \*John not writes (wrote) books.  
b. John does (did) not write books.

Chomsky proposes that the ungrammaticality of (21a) is attributed to the head movement constraint (HMC) and the ECP. In (21a), the lowering of T to AGR forms [<sub>AGR</sub> AGR-T], leaves a trace, and this complex element is further lowered to the verb at S-structure, forming an improper chain [<sub>v</sub> V [<sub>AGR</sub> AGR-T]]. Subsequent LF-raising of the complex V, i.e., [<sub>v</sub> write [<sub>AGR</sub> AGR-T]], to the position of t over Neg is therefore required to create a proper chain. The LF-representation of (21a) looks like the following:



As seen in (22), the movement of the complex V over Neg violates the ECP. Since Neg is a potential antecedent governor intervening between the moved complex V and its trace<sup>8</sup>, a violation of the minimality condition is induced (Chomsky (1986b), Rizzi (1990a)).<sup>9</sup> The definitions of antecedent government and minimality are given in (23):

(23) a. Antecedent Government (Rizzi (1990a:6))

- $\alpha$  antecedent governs  $\beta$  iff
  - (i)  $\alpha$  and  $\beta$  are coindexed
  - (ii)  $\alpha$  c-commands  $\beta$
  - (iii) no barrier intervenes
  - (iv) Relativized Minimality is respected.

b. Relativized Minimality (Rizzi (1990a:7))

- $\alpha$  a-governs  $\beta$  only if there is no  $\gamma$  such that
  - (i)  $\gamma$  is a typical potential a-governor for  $\beta$ ,
  - (ii)  $\gamma$  c-commands  $\beta$  and does not c-command  $\alpha$ .

Therefore, in order to rescue the derivation, Chomsky argues, a language-particular rule like 'DO'-Support as a last resort is invoked to support a stranded tense morpheme as in (21b).

Next, let us consider the following example:

(24) John has not written books.

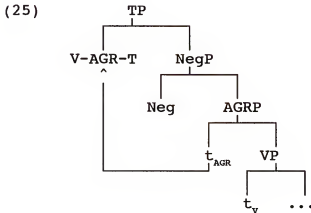
To yield (24), the verb have moves to AGR, and [<sub>AGR</sub> V-AGR]

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<sup>8</sup> Pollock (1989) argues that when L-marked, NegP becomes transparent to antecedent government, whereas Chomsky departs from Pollock and claims that NegP is an inherent barrier.

<sup>9</sup> Alternatively, if a negative morpheme not is a bound morpheme, the ill-formedness of (21a) is due to the violation of morphological filter, which states that "a morphologically realized affix must be realized as a syntactic dependent at S-structure." (Lasnik (1981:162)).

further moves to T crossing Neg, as shown in (25):



An immediate question arises: why doesn't overt raising of AGR to T over Neg violate the ECP as in (25)? According to Chomsky, an element cannot be deleted at LF if it plays a role at that level, while an element can be deleted if it plays no role at LF. This is the intuitive content of the notion of the Full Interpretation (Chomsky (1986a)), which holds that an element can appear in a representation only if it is properly licensed: every element must be appropriately licensed at PF and LF. The trace of a verb, for example, cannot be deleted at LF if it has substantive content and thus plays a role at that level. The trace of AGR, however, plays no role at LF and therefore can be deleted at that level. The deletion of this trace avoids a potential violation of the minimality condition. Furthermore, regarding the nature of deletion, Chomsky (1991:428-29) suggests that "deletion leaves a position but no features, in particular, no categorial features." Given that the minimality condition is a condition

on chains rather than on derivation, which is in line with Chomsky (1986b), a violation of minimality is not induced since the trace  $\underline{t}_i$  left by V-movement is properly governed, and therefore the minimality condition is observed.

Now, turning to the more general question, why does LF-raising of V-AGR to T over Neg induce a violation of minimality, as in (21a) (= (22)), whereas overt raising of V-AGR to T over Neg does not induce a violation of minimality, as in (24) (= (25))? To be more specific, the LF-representations of (21a) and (24) are (26a) and (26b), respectively:

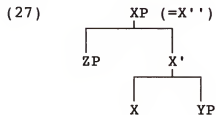
- (26) a. John [<sub>v</sub> write-AGR-T] Neg  $t'_v$  [<sub>vp</sub>  $t_v$  books]  
 b. John [<sub>τ</sub> have-AGR-T] Neg [e] [<sub>vp</sub>  $t_v$  ...]

Chomsky claims that in (26a) the trace of the verb cannot be deleted, since it is part of a chain with substantive content at LF, so that antecedent government of  $\underline{t}'_v$  is blocked by the intervening element Neg, under the minimality condition. On the other hand, following the derivation step by step, in (26b) the V moves to AGR, leaving V-trace and forming [<sub>AGR</sub> V-AGR]. This complex element further raises to T over Neg, forming [<sub>τ</sub> V-AGR-T], and leaving an AGR-trace. As discussed so far, the trace of AGR is now deleted, leaving [e]. Hence the representation in (26b) does not induce a violation of the minimality condition.

### 2.2.3. Chomsky (1992): The Minimalist Program

Chomsky (1992) proposes a "minimalist" program which allows two interface levels, i.e., the PF (Phonetic Form) component and the LF (Logical Form) component.<sup>10</sup> He assumes that a language consists of two components: a lexicon and a computational system. The lexicon specifies the items that enter into the computational system, with their idiosyncratic properties, while the computational system uses these elements to generate derivations and structural descriptions (SDs). According to the "minimalist" program, conditions on representations such as binding theory, Case theory, and theta theory, etc. hold only at the interface levels.

In a "minimalist" theory, the crucial properties and relations are stated in terms of X-bar theory, as illustrated in (27):



According to Chomsky (1992), there are two local relations in (27): One of them is the Head-Complement relation of X to YP, which is local and fundamental in the sense that it is

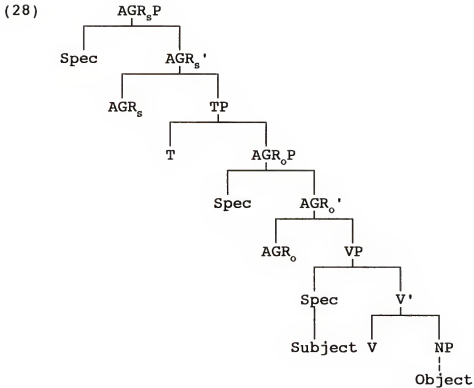
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<sup>10</sup> According to Chomsky (1992), the status and character of PF and LF are related to articulatory-perceptual level (A-P level) and conceptual-intentional level (C-I level), respectively.



associated with  $\theta$ -relations. The other is the Spec-Head relation of ZP to X which plays a crucial role in assigning a structural Case.

AGR has been assumed to be a collection of  $\phi$ -features such as person, number, and gender, and these are common to the systems of subject and object agreement. Chomsky proposes two types of AGRs, i.e.,  $AGR_s$  and  $AGR_o$ , as distinct projections.  $AGR_s$  and  $AGR_o$  are informal mnemonics to distinguish the two functional roles of AGR. Further, he regards both agreement and structural Case as expressions of the Spec-Head relation between NP and AGR. However, different Case marking, i.e., nominative and accusative, is due to characteristics of T and the V head of VP. Let us take a look at the split structure of a clause:



Assuming the split INFL hypothesis of Pollock (1989), Chomsky (1992) argues that categories lexically specified for certain morphological features must move to the appropriate position where these features can be checked off (Chomsky and Lasnik (1991)). According to Chomsky, nouns, like verbs, must be checked in the Spec of AGR. Adopting the VP-internal subject hypothesis, Chomsky argues that subjects and objects move to the Spec of AGR<sub>s</sub>P and AGR<sub>o</sub>P, respectively, in order to obtain their morphological features, i.e., nominative and accusative Case, respectively.<sup>11</sup> According to him, AGR has two types of features: V-features that check V adjoined to AGR and NP-

<sup>11</sup> Chomsky (1992) argues that this type of movement is forced by the principle of Full Interpretation.

features that check NP in Spec-AGR. To be more concrete, the following example in (29a) may be represented as (29b):

- (29) a. John loves Mary.  
 b. [<sub>AGR<sub>SP</sub></sub> John<sub>i</sub> [<sub>TP</sub> -s [<sub>AGR<sub>OP</sub></sub> Mary<sub>j</sub> [<sub>VP</sub> t<sub>i</sub> love t<sub>j</sub> ]]]]

Each movement is triggered by feature-checking: the movement of John to the Spec of AGR<sub>SP</sub> and the movement of Mary to the Spec of AGR<sub>OP</sub> are triggered by the checking of nominative Case and accusative Case, respectively.<sup>12</sup> In other words, in both positions, the relation of NP to the verb is instantiated through AGR, a collection of  $\phi$ -features. Moreover, in both positions, agreement is determined by the  $\phi$ -features of the AGR head of the complex AGR, and Case is determined by an element that adjoins to AGR (T or V). Hence, an NP in the Spec-Head relation to this complex AGR bears the associated Case and agreement features. Under the "minimality" program, argues Chomsky, the Spec-Head and Head-Head relations are the core configurations for inflectional morphology.

Now, let us return to Pollock's (1989) underlying idea that French-type languages have strong (transparent) AGR, which forces overt raising, while English-type languages have weak (opaque) AGR, which blocks it. Chomsky (1992) rephrases it in this way: the V- features of AGR are strong in French, while they are weak in English. According to Chomsky, when

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<sup>12</sup> Chomsky (1992) argues that for English, subjects move to the Spec of AGR<sub>SP</sub> in syntax, while objects move to the Spec of AGR<sub>OP</sub> only at LF.

the V-features have done their work, they disappear. However, if V does not raise to AGR overtly, the V-features survive to PF. Chomsky assumes that strong features are visible at PF but weak features are invisible at that level. These features are not legitimate objects at PF; that is, they are not proper components of phonetic matrices. He therefore argues that if a strong feature remains after SPELL-OUT, the derivation is ruled out.<sup>13</sup> In French, overt raising is obligatory; but in English, it is not.

Two major questions arise: first, why is overt raising not allowed in English, unlike French? Relevant examples are reproduced in (30):

- (30) a. \*John kisses often Mary. (=4))  
       b. Jean embrasse souvent Marie.  
       c. John often kisses Mary.  
       d. \*Jean souvent embrasse Marie.

As the ungrammaticality of (30a) indicates, main verbs in English do not raise. To deal with this question, Chomsky (1992) argues that LF movement is cheaper than overt movement. That is, LF operations are a kind of "wired-in" reflex, operating mechanically without any directly observable effects. The "minimalist" system tries to reach PF as fast as possible, minimizing overt syntax. In English-type languages,

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<sup>13</sup> Alternatively, as Chomsky (1992) suggests, weak features are deleted in the PF component so that PF rules can apply to the phonological matrix that remains. On the other hand, strong features are not deleted so that PF rules do not apply, causing the derivation to be ruled out at PF.

overt raising is not necessary for convergence. Therefore, it is not allowed by the economy principle.

Second, why do the English auxiliaries have and be raise overtly, as do verbs in French? Consider the following examples, which are repeated in (31):

- (31) a. John has lost his way. (= (7))  
 b. John is singing.

Assuming that elements lacking semantically-relevant features are not affected by LF rules, Chomsky accounts for this by suggesting that if they have not been raised overtly, they will not be able to raise by LF rules and the derivation will be ungrammatical.

#### 2.2.4. Pesetsky (1989)

As an alternative to Chomsky's (1989) Least Effort and Last Resort principles, Pesetsky (1989) proposes the Earliness principle in (32) below:

- (32) Earliness Principle (Pesetsky (1989:7))

Satisfy filters<sup>14</sup> as early as possible on the hierarchy of levels: (DS >) SS > LF > LP.<sup>15</sup>

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<sup>14</sup> The filter in (32) is informally stated as follows:

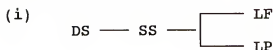
Lasnik's Filter: An affix must be lexically supported at PF.

<sup>15</sup> According to Pesetsky, LP structure is the level in which 'DO'-Support is applied. The grammar Pesetsky assumes has the articulation in (i):

A basic tenet of the Earliness principle is that the rule ordering in question is not determined by the number of derivational steps as initiated by Chomsky (1989, 1991), but by the hierarchy of levels of representations. In other words, given the fact that I-to-V lowering with subsequent LF V-to-I raising always involves more derivational steps than overt V-to-I raising, the Least Effort principle forces UG to choose the latter derivation. The Earliness principle, however, forces UG to single out the derivation that satisfies the filter at an earlier stage. According to Pesetsky, the filter is satisfied at the following level:

- (33) a. V-to-I raising : S-structure  
       b. (Finite) I-to-V lowering  
           and V-to-I raising : LF  
       c. 'DO'-Support : LP-structure  
       d. V-to-I > I-to-V > 'DO'

Given the level at which the filter is satisfied, it is evident that the combined effects of Chomsky's (1989, 1991) Least Effort and Last Resort principles can be captured by the Earliness principle in (32), i.e., the anticipated ordering of V-to-I raising, I-to-V-lowering, and 'DO'-Support.



According to Pesetsky, 'DO'-Support (LP insertion rules) should not feed any S-structure processes. Move  $\alpha$  is part of the mapping from D-structure to S-structure and LF, but not part of the mapping from S-structure to LP structure.

Pesetsky points out that his Earliness principle differs in three salient respects from Chomsky's principles. First, it does not require examination of derivations as a whole, but only the structure of chains affected by the structural description of filters. Second, the Earliness principle is both stronger and weaker than the Economy principle as follows:

The ways in which it is Earliness is correctly weaker than Economy: since Earliness does not keep track of derivation length, Earliness, but not Economy, should allow "spontaneous" movement -- movement that takes place for no reason at all.

The way in which Earliness is correctly stronger than Economy: consider two derivations of equal length, where one satisfies a filter earlier than the other. Earliness predicts that only the derivation that satisfies the filter earlier should be permitted, Economy predicts equal status for the two derivations. (Pesetsky (1989:8))

Third, Earliness is a homogeneous condition, unlike the two distinct conditions of Economy, viz., Least Effort and Last Resort principles. That is, under the view of Earliness, 'DO'-Support is no longer regarded as a language-particular rule, but rather a principle that applies at LP.

As we have discussed in the previous sections, English main verbs cannot move to opaque AGR and hence not to T. Pesetsky, however, challenges Chomsky (1989, 1991) and Pollock (1989) in that there are cases in which main verbs raise. Consider the following examples (Pesetsky (1989:28)):

- (34) a. Bill INFL [ <sub>$\mu$</sub>  knocked<sub>i</sub>] [ <sub>$v_R$</sub>  recently t<sub>i</sub> on it].  
 b. Sue looked carefully at him.  
 c. Harry relies frequently on it.  
 d. \*Bill pushed recently the door.  
 e. \*Sue saw frequently the movie.  
 f. \*Harry trusted frequently Mary.

Under the view of  $\theta$ -opacity, the sentences in (34a-c) are incorrectly ruled out since thematic verbs like knock cannot move to opaque AGR. To avoid this problem, Pesetsky argues that main verbs move to the position which he calls  $\mu$ .<sup>16</sup> According to Pesetsky, English  $\mu$  is not  $\theta$ -opaque, but rather Case-opaque in that only non-Case assigning verbs move to  $\mu$ . Case-opacity means that a verb in  $\mu$  cannot assign Case through its trace. Pesetsky provides some verbs that do not assign a  $\theta$ -role but do assign Case, and hence move to INFL but not to  $\mu$  (Lasnik (1992)). These verbs are existential be and have, as in (35) (Pesetsky (1989:35)):

- (35) a. Existential be moves to INFL  
       There are never any cops when you need them.  
       b. Existential be moves to  $\mu$   
           \*My whole life, there have been never any cops when  
           I've needed them.  
       c. Non-existential be moves to  $\mu$   
           My whole life, cops have been never where I've needed  
           them.  
 (36) a. Have moves to INFL  
       ?John has never time to do anything good.  
       b. Have moves to  $\mu$   
           \*John has had never time to do anything good.

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<sup>16</sup> This position labelled  $\mu$  corresponds to AGR in Pollock and AGR-O in Chomsky (1989, 1991).



- c. Movement to  $\mu$  over never is possible  
 John relies never on anyone important.

The above examples show that a verb moved to INFL can assign Case through its trace, as in (35a) and (36a), whereas a verb moved to  $\mu$  cannot, as in (35b) and (36b).<sup>17</sup> This fact can be summarized in terms of  $\theta$ -opacity and Case-opacity as follows:

- (37)  $\mu$  : [- $\theta$ -opaque, +Case-opaque]  
 INFL : [+ $\theta$ -opaque, -Case-opaque]

(37) yields four possibilities as in (38):

- (38) a. V-to- $\mu$  only : -Case, + $\theta$ -assigning V  
 b. V-to-I only : +Case, - $\theta$ -assigning V  
 c. V-to- $\mu$ -to-I : -Case, - $\theta$ -assigning V  
 d. neither V-to- $\mu$  nor to I : +Case, + $\theta$ -assigning V

If the HMC (or the ECP) holds for verb movement, then V-to-I movement should necessarily involve movement to  $\mu$  as an

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<sup>17</sup> Lasnik (1992) argues for Belletti's (1988) idea that existential be (or its trace) assigns Case to its object. Here are some examples from Lasnik (1992:387-388):

- (i) a. \*I believe there to be not a solution.  
 b. \*I believe there to be usually a solution.
- (ii) a. I believe there is not a solution.  
 ..... [Tense  $be_i$ ] [not  $t_i$  a solution].  
 b. I believe there is usually a solution.  
 ..... [Tense  $be_i$ ] [usually  $t_i$  a solution]

Lasnik notes that when existential be is not the main tensed verb as in (i), it cannot be separated from its object by an adverb, i.e., a solution fails to be assigned a Case due to adjacency (Stowell (1981)). On the other hand, when existential be is the main tensed verb, it can be separated by an adverb, i.e., a solution is adjacent to a Case assigner, namely, the trace of raised be. Based on this observation, he concludes that be (or its trace) is the Case assigner, and that Case transmission does not exist (Chomsky (1986a)).

intermediate step. As shown above, however, some verbs such as existential be and have that do not assign a  $\theta$ -role but do assign Case may move to INFL without the intermediate movement to  $\mu$ .

So far, we have discussed three major studies on  $X^0$ -movement by Pollock (1989), Chomsky (1989, 1991, and 1992), and Pesetsky (1989). In the next section, we turn to the VP-internal subject hypothesis to provide a tenable account for linguistic phenomena which would encounter serious problems under the previous analysis.

### 2.3. The VP-Internal Subject Hypothesis

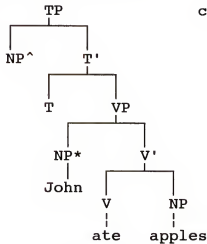
Based on various syntactic and semantic restrictions, a number of proposals have been made in recent literature that subjects are base-generated in the Spec of VP at D-structure and move to the Spec of TP by generalized move- $\alpha$  (Chomsky (1992), Chomsky and Lasnik (1991), Deprez (1989), Diesing (1988), Fukui and Speas (1986), Koopman and Sportiche (1988, 1991), Kratzer (1989), Kuroda (1988), Miller (1993), and Sportiche (1988), among others). Under this view, the subject is generated VP-internally as in (39b) and moves to the Spec of TP in order to get Case as in (39c)<sup>18</sup>:

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<sup>18</sup> Throughout this study, I use TP instead of IP in accord with the split INFL hypothesis.

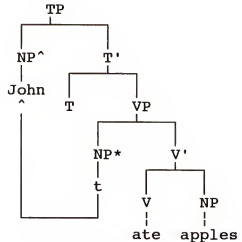
(39) a. John ate apples.

b.



(D-Structure)

c.



(S-Structure)

The leading idea is that subject positions, like object positions, are  $\theta$ -marked within the maximal projection of the verb, making NP\* a  $\theta$ -position. An immediate question which arises is, why does NP\* move into the Spec of TP at S-structure? In languages like English, NP\* is not a Case marked position, so at S-structure NP\* must move to the Spec of TP where it receives nominative Case from Tense (INFL). In this respect, Koopman and Sportiche (1988, 1991) (henceforth; K&S) assume that Case is assigned in two ways: the NP in the Spec of TP can receive a Case from INFL by Spec-Head agreement, while the NP\* can receive a Case from INFL under government. The fact that NP\* receives no Case in English suggests that INFL can only assign Case by agreement with its specifier NP.

The VP-internal subject hypothesis is traditionally attributed to Stowell's (1981) small clause analysis in the

sense that small clauses of the type  $Y = [NP X]$  exist where  $X$  stands for A, P, N and V, as illustrated in (40):

(40) John saw [<sub>VP</sub> Mary [<sub>VP</sub> sing]].

According to Stowell, the first VP in (40) has its own subject and the verb sing directly assigns a  $\theta$ -role to its subject. In what follows, I provide conceptual and empirical arguments in support of this hypothesis.

### 2.3.1. Conceptual Arguments

It has been assumed that there is an asymmetry with respect to  $\theta$ -role assignment to a subject on the one hand and to a complement on the other: the  $\theta$ -role assignment to a subject is indirectly determined "compositionally" by the verb and its internal argument, whereas the  $\theta$ -marking of a complement is directly determined by the verb. As Deprez (1989) points out, however, such an asymmetry can be eliminated by assuming the VP-internal subject hypothesis: the subject  $\theta$ -role is assigned by some projection of V which includes the complement but excludes the subject.

The second conceptual argument for the existence of the VP-internal subject hypothesis comes from X'-theory due to Kuroda (1988). The underlying idea behind X'-theory is that the X'-theory captures some kind of generality under the hypothesis that all categories have the same structure. According to Kuroda, even though most categories such as NP,

TP, and CP have specifier positions, no role is given to the specifier of VP. That is, in the canonical X'-theory, the category V is defective (Chomsky (1986b)). Therefore, Kuroda argues that the specifier of VP remedies this defectiveness, rendering VP similar to other projections.<sup>19</sup>

Third, given the VP-internal subject hypothesis, we can naturally formulate the following rule in (41) governing the projection of arguments vis-à-vis their predicates, which is from Larson (1988:382):

- (41) If  $\alpha$  is a predicate and  $\beta$  is an argument of  $\alpha$ , then  $\beta$  must be realized within a projection headed by  $\alpha$ .

This principle imposes a relation between thematic and categorial structure. If all of the arguments of a predicate are realized within a projection of a predicate, Larson argues, the argument bearing the agent  $\theta$ -role appears in the specifier position within the VP. To be more specific, Larson (1988:382) adopts the following hierarchy of thematic relations due to Carrier-Duncan (1985):

- (42) Thematic Hierarchy

AGENT > THEME > GOAL > OBLIQUES (manner, location, time....)

Therefore, the roles assigned by a verb are linked to arguments according to the following principle:

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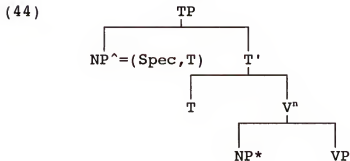
<sup>19</sup> The assumption that the subject of a clause is in the Spec of VP, suggests Kuroda, is a null hypothesis in the VP-internal subject hypothesis.

- (43) If a verb  $\alpha$  determines  $\theta$ -roles  $\theta_1, \theta_2, \dots, \theta_n$ , then the lowest role on the thematic hierarchy is assigned to the lowest argument in constituent structure, the next lowest role to the next lowest argument, and so on.  
(Larson (1988:382))

Given this principle in (43), the argument NP bearing an agent  $\theta$ -role occupies the highest position within the VP and the argument NP bearing a theme role occupies the next highest position, and so on.

### 2.3.2. Empirical Arguments

The first empirical argument for the VP-internal subject hypothesis provided by K&S (1988:2) is that an overt subject NP is derived by movement, as shown in (44):



K&S argue that INFL shares crucial properties of raising verbs like seem. The following are typical properties for analyzing the verb seem as a raising verb (K&S (1988:3)):

- (45) a. seem imposes no selectional restrictions on its subject.  
 b. seem can take expletive it as subject (it seems that John sleeps all the time) or nonexpletive subjects (John seems to sleep all the time).

- c. seem allows as subject an NP licensed by the predicate of the clause embedded under it.  
 weather it (it seems to rain)  
 idiom chunks (the cat seems to be out of the bag)  
 Existential there (there seems to be a griffin on the 22nd level)

Interestingly, K&S (1988:6) observe the following properties for INFL:

- (46) a. INFL does not assign an external  $\theta$ -role.  
 b. INFL allows as subject an NP licensed by the predicate embedded under it.  
 c. External argument of a predicate (John will sleep).  
 weather it (it will rain)  
 idiom chunks (the cat will be out of the bag)  
 Existential there (there will be a griffin on the 22nd level)

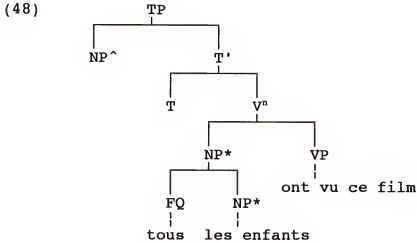
Based on these similar properties, K&S conclude that INFL like raising verbs forces a subject NP to move to the Spec of TP.

The second empirical argument for the VP-internal subject hypothesis comes from Floating Quantifiers (hereafter; FQs). Consider the following sentences in French (Sportiche (1988:426)):

- (47) a. Tous les enfants ont vu ce film.  
 all the children have seen this movie.  
 b. Les enfants ont tous vu ce film.  
 the children have all seen this movie.

According to Sportiche (1988), FQs such as tous 'all' are generated adjacent to the maximal projection they modify. Further, the subject NP les enfants 'the children' is base-generated VP-internally but moves to the Spec of TP to

receive nominative Case. The two sentences in (47a-b), argues Sportiche, have the same D-structure representation in (48):



When the entire (higher) NP\* moves to NP^ where nominative Case is assigned, we obtain (47a). On the other hand, when both the lower NP\* and the verb ont 'have' move to the Spec of TP and to Tense, respectively, we obtain (47b). Under this view, the distribution of FQs provides empirical evidence for the VP-internal subject hypothesis.

Let us now turn to the anaphoric properties of the FQs. There are some restrictions common to French and English, as illustrated in (49) (Kayne (1984:91)):

- (49) a. \*La mère de mes amis est tous partie.  
 b. \*The mother of my friends has all left.
- (50) a. \*Mes amis pensent que je suis tous partie.  
 b. \*My friends think that I have all left.

Kayne (1984:91) points out that the same restrictions apply to anaphors in English in (51):



- (51) a. \*The mother of my friends likes each other.  
 b. \*My friends think that I like each other.

According to Kayne, the status of tous and all as anaphors allows one to assimilate (49) to (51a), and thereby to the requirement that an anaphor need a c-commanding antecedent. In (40) mes amis and my friends fail to c-command tous and all, respectively, and the sentences are therefore ungrammatical. (50) is similar to (51b). Although tous and each other do have c-commanding antecedents, those antecedents are outside the clause containing anaphors, which causes (50) and (51b) to be ungrammatical. Based on these phenomena, Kayne (1984) concludes that FQs are anaphors.

With regard to this, Sportiche (1988) argues that these two properties, viz., c-command and the locality requirement, immediately follow from her proposal, since FQs modify the trace of an NP which is assumed to be an anaphor. Under Sportiche's view, (49) is ruled out, since the NPs contained in the whole NP, i.e., mes amis and my friends, cannot occupy the VP-internal subject position. Although we assume that movement occurs, as Deprez (1989) notes, (49) would be ruled out since the trace left by the movement cannot be c-commanded by its antecedent and thus is not properly bound. The examples in (50) are ruled out for the same reason. Therefore, Sportiche's analysis correctly predicts that the distribution of an FQ is restricted in the same way as NP-movement.

Miller (1993) provides crucial evidence for the VP-internal subject hypothesis. Consider the following examples from West Greenlandic Eskimo which are attributed to Miller (1993:144-45):

(52) Subject Control and ECM in W. Greenlandic

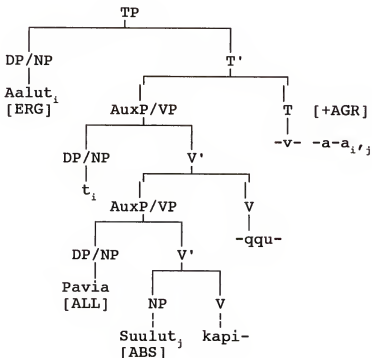
- a. angut-ip arna-q taku-juma-v-aa  
man-ERG woman-ABS see-want-IND-3sS/3sO  
`the man wants to see the woman.'
- b. Aalu-p Pavia-mut Suulut savim-mi-nik kapi-qqu-(v)-aa  
A.-ERG Pavia-ALL S.ABS knife-REFL-INST stab-want-IND  
-3sS/3sO  
`Aalut wanted Pavia to stab Suulut with his [A's or  
P's] knife.'
- c. quaq uatsin-n-ut niri-qqu-(v)-aa  
frozen.meat (ABS) us-pl-ALL eat-want-IND-3sS/3sO  
`s/he wanted us to eat the frozen meat.'
- d. niri-qqu-(v)-aatigut  
eat-want-IND-3pS/1pO  
`they wanted us to eat.'
- e. uatsin-nut niri-qqu-(v)-aat  
us-ALL eat-want-IND-3pS/3sO  
`they wanted us to eat it.'
- f. Suulu-p Inuuraq tuttu-p niqi-tur-(q)qu-(v)-aa  
S.-ERG I.ABS reindeer-GEN meat-eat-want-IND  
-3sS/3sO  
`Suulut asked Inuuraq to eat reindeer meat.'

As Miller notes, in (52) with subject control, ergative Case and absolutive Case are assigned to the subject of *-(j)uma-* 'want' and the object of *taku* 'see', respectively. In (52b-f) the subject appears in the ergative Case and the object of the root verb in the absolutive Case. However, there are

differences in AGR: in (52b-c) there is a lexical object of the root verb, and AGR indexes subject and absolutive object. On the other hand, in (52d) there is no lexical object, and AGR indexes the subject (pro) and the subject of *niri* 'eat'. In (52e) the subject of *niri* and the pro object are present, and AGR indexes the pro object. In (52f) the object of the root verb is incorporated and its subject is in the absolutive Case. In all cases, AGR indexes the S-structure subject and the absolutive-marked object.

Adopting the VP-internal subject hypothesis, Miller convincingly accounts for all these complicated Case assignments in (52) outlined above. Under this view, an example such as (52b) is represented as (53) (Miller (1993:146)):

(53)



Notice that in (53) kapi- moves to Tense by successive head-to-head movement. When the Case assigning root verb is not used up, as in (52d-e), structural Case such as absolutive is assigned to the subject of the embedded clause. Based on this phenomenon, Miller suggests that both allative and absolutive Case may be structural Cases, and that a verb like -qqu- may be a Case assigner.

Additional evidence for the VP-internal subject hypothesis comes from local and long distance binding in Eskimo (Miller (1993:149)).

(54) Local and Long Distance Binding in W. Greenlandic

- a. palasi-p immi-nut niri-artu-qqu-(v)-aanga  
 priest-ERG self-ALL eat-come.to-ask-IND-3sS/1sO  
 'The priest<sub>i</sub> asked me<sub>j</sub> to come eat at his<sub>i</sub> place.'
- b. Maalia ugar-pu-q Hansi-p nammini*q* ikiur-tariaqa-raani  
 M.ABS say-IND-3sS H.-ERG self.ABS help-must-partic.  
 3sS/4sO  
 'Maalia<sub>i</sub> said that Hansi<sub>j</sub> had to help her<sub>i</sub>.'
- c. ugar-pu-q Hansi-p immi-nut ikiur-tariaqa-tu-q  
 say-IND-3sS H.-ABS self-ALL help-must-partic.3sS  
 's/he<sub>i</sub> said that Hansi<sub>j</sub> must help himself<sub>j</sub>.'
- d. Hansi immi-nut naalat -sit -si -vu -q  
 H-ABS self-ALL obey-caus-APASS-IND-3sS  
 'Hansi<sub>i</sub> caused people<sub>j</sub> to obey him<sub>i</sub>.'

Miller notes that in Eskimo the choice of reflexive anaphor depends on whether the structure is mono- or bi-clausal. That is, immi(-nut) is used for local binding and nammini*q* for long distance binding. In (54c), the reflexive immi 'self' is

bound by the subject of the lower clause, while in (54b) 'self' is bound by the subject of the matrix clause and nammini is used. This suggests that in (54a) and (54d), where 'ask/want' and 'cause' are incorporated, the structure must be monoclausal. Therefore, Miller argues that the use of immi(-nut) for local binding in incorporated structures proves them to be monoclausal, in which case the complement structure must be VP.<sup>20</sup>

Finally, it is a well-known fact that English exhibits subject and object asymmetry with respect to extraction, i.e., objects can be freely extracted from the embedded clause, while subjects cannot, a phenomenon known as that-t effects demonstrated in the following grammatical contrast:

- (55) a. \*Who<sub>i</sub> do you think [<sub>CP</sub> that [<sub>TP</sub> t<sub>i</sub> loves Mary]]?  
 b. Who<sub>i</sub> do you think [<sub>CP</sub> that [<sub>TP</sub> John loves t<sub>i</sub>]]?

The trace in (55a) is neither antecedent-governed nor lexically governed, resulting in a violation of the ECP. The trace in (55b), however, is lexically governed by the verb love.

On the other hand, in languages like Korean that-t effects do not show up, i.e., the subject NP behaves like the object NP in the sense that extraction out of both the subject

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<sup>20</sup> Miller (1993) provides additional evidence for this view in dealing with causatives with VP complements and passives.

and the object is grammatical. Observe the Korean sentences which correspond to English sentences in (55):

- (56) a. ne-nun [<sub>CP</sub> [<sub>TP</sub> [<sub>VP</sub> nwukwu-ka Mary-lul salangha]-n-ta]  
 you-Top who-Nom -Acc love -Pres-Dec

-ko] sayngkakha-ni?

-Comp think-Q

`Who<sub>i</sub> do you think that t<sub>i</sub> loves Mary?'

- b. ne-nun [<sub>CP</sub> [<sub>TP</sub> [<sub>VP</sub> John-i nwukwu-lul salangha]-n-ta]  
 you-Top -Nom who-Acc love -Pres-Dec

-ko] sayngkakha-ni?

-Comp think-Q

`Who<sub>i</sub> do you think that John loves t<sub>i</sub>?'

(56a-b) are grammatical and wh-phrases in embedded clauses have scope over matrix clauses. The lack of that-t effects in Korean can be easily accounted for by assuming the VP-internal subject hypothesis, since the subject within the projection of VP is properly governed by the verb, and the object is lexically governed by its verb, thus satisfying the ECP.<sup>21</sup> Therefore, the VP-internal subject hypothesis correctly predicts that there are no that-t effects in Korean.<sup>22</sup>

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<sup>21</sup> Joo (1989) accounts for the lack of that-t effects in Korean by assuming the 'that'-deletion rule in line with Lasnik and Saito (1984).

<sup>22</sup> Mohammad Mohammad (personal communication) pointed out to me that Arabic has that-t effects. Arabic then can be accounted for in the same way as English.

### 2.3.3. Individual-Level and Stage-Level Predicates

Carlson (1977) classifies predicates into individual-level predicates and stage-level predicates: individual-level predicates describe constant properties across time, while stage-level predicates describe temporary properties.<sup>23</sup> He notes some criteria for the distinction between individual-level predicates and stage-level predicates. Contrast the following:

- (57) a. John is eating an apple.  
       b. \*John is being intelligent.
- (58) a. There is a boy drunk.  
       b. \*There is a boy tall.

As shown in (57), stage-level predicates such as eat are compatible with progressive -ing constructions, while individual-level predicates such as intelligent are not. Furthermore, stage-level predicates are allowed in there-constructions, whereas individual-level predicates are not, as in (58).

Diesing (1988, 1992) develops the VP-internal subject hypothesis and observes that stage-level predicates behave differently from individual-level predicates when they co-

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<sup>23</sup> Predicates like intelligent and tall are typical individual-level predicates, whereas predicates like play, available, and eat, denoting temporary properties, are typical stage-level predicates.

occur with bare plural subjects<sup>24</sup>: stage-level predicates with a bare plural subject have both existential and generic readings, whereas individual-level predicates get only the generic reading, as exemplified in (59-60):

- (59) a. Firemen are available. (Diesing (1988:21))  
       b.  $\exists_{x,t}$  fireman (x)  $\wedge$  available (x,t)  
       c. Gen [x: fireman, t: time] available (x,t).  
       d. Gen [t:time]  $\exists$ fireman (x)  $\wedge$  available (x,t)
- (60) a. Firemen are intelligent. (Diesing (1988:23))  
       b. Gen<sub>x</sub> [x: fireman] intelligent (x).

According to Diesing, (59a) with a stage-level predicate has three readings, while (60a) with an individual-level predicate has only a generic reading. As for (59a), the first reading is the existential reading. On this reading there are firemen available in the fire station at some point in time as in (59b). (59c-d) are of the generic readings. To be more concrete, the reading in (59c) expresses a dispositional attribute of firemen. That is, it is a necessary property of a fireman that s/he be generally available. The reading in (59d) is that generally there are firemen available. Diesing clarifies the above contrast in this way: In stage-level predicates the bare plural subject can appear in either the Restrictive Clause (the generic reading) or the Nuclear Scope (the existential reading), while in individual-level predicates the subject is required to appear in the

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<sup>24</sup> Diesing (1988, 1992) notes that bare plural NPs are plural noun phrases which do not have any kind of overt determiner.



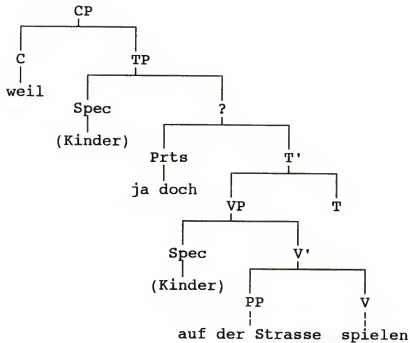
Restrictive Clause. To account for the contrast in interpretation, she argues that subjects of stage-level predicates are base-generated VP-internally and move to the Spec of TP so that two readings are available, while subjects of individual-level predicates are base-generated in the Spec of TP, leading to only a generic reading.

Diesing (1988:31) further provides evidence from German for distinguishing the two predicates. Consider the following examples:

- (61) a. ... weil Kinder ja doch auf der Strasse spielen  
           ... since children prt prt in the street play  
           'since children play in the street.'  
           (generic reading only)
- b. ... weil ja doch Kinder auf der Strasse spielen  
           'since there are children playing in the street.'  
           (existential reading only)

Diesing assumes that the particles ja doch appear at the 'clausal boundary', which is taken to be the VP. The relationship between syntactic constructions and available interpretation can be represented as follows:

(62)



As illustrated in (62), the bare plural NP Kinder involving stage-level predicates appears in either the Spec of TP or the Spec of VP. When the bare plural subject Kinder is in the Spec of VP, only the existential reading is available, since the NP is within the Nuclear Scope. On the other hand, when the subject is in the Spec of TP, only the generic reading is possible.

On the other hand, observe the following examples with individual-level predicates (Diesing (1988:33)):

- (63) a. ... weil Wildschweine ja doch intelligent sind.  
           ... since wild boars prt prt intelligent are  
           'since wild boars are intelligent.'  
           (generic reading only)

- b.?\* ... weil ja doch Wildschweine intelligent sind.  
           ... since prt prt wild boars intelligent are

As shown above, the bare plural NP with individual-level predicates can appear in the Spec of TP to give a generic reading, but the subject in the Spec of VP is odd. Based on the different readings in cases involving stage-level and individual-level predicates, Diesing concludes that the two S-structure subject positions play a crucial role in determining the generic and existential reading of the bare plural in German.<sup>25</sup>

Kratzer (1989) tries to show that Diesing's proposal can be derived from her proposals concerning the argument structure of the two types of predicates. Kratzer proposes that stage-level arguments are 'Davidsonian' in that they have an extra argument position for events or spatio-temporal location, while individual-level predicates lack this position. Following Williams (1981), Kratzer assumes that in D-structure the arguments of a lexical predicate are linked to their syntactic positions according to argument linking<sup>26</sup> and that all internal arguments are realized within the maximal projection of the predicate. Therefore, for stage-level predicates which have the Davidsonian argument, the non-Davidsonian arguments are generated VP-internally, whereas for

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<sup>25</sup> Diesing (1990) further points out that unlike German, Yiddish shows the V2 phenomenon in the matrix clause and in the embedded clause. To account for this, she argues that the subject NP in Yiddish is base-generated VP-internally.

<sup>26</sup> Argument linking is defined as follows:

"All but the highest arguments are realized within the lexical projection of the predicate." (Kratzer (1989:10))

individual-level predicates which lack the Davidsonian argument, the highest argument, usually the agent, will be realized in the VP-internal subject position.<sup>27</sup>

So far we have presented several arguments in support of two recent proposals for clausal structure. i.e., the split INFL hypothesis and the VP-internal subject hypothesis. By adopting these two proposals, the current study endeavors to shed new light on these issues by considering the clausal structures and the verbal projections of Korean.

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<sup>27</sup> Deprez (1990) notes that stylistic inversion (SI) is grammatical with stage-level predicates and awkward with individual-level predicates in French, as seen below:

- (i) Individual level predicate:  
 ??Que comprennent les gens?  
 'What do people understand?'
- (ii) Stage-level predicate:  
 Qu'achètent les consommateurs?  
 'What do consumers buy?' (Deprez (1990:54-55))

Assuming Diesing's (1988) and Kratzer's (1989) hypothesis, Deprez argues that the contrast in (i) and (ii) can be accounted for by saying that the post-verbal subject occurs in the VP-internal position in the SI constructions.

## CHAPTER 3 FUNCTIONAL CATEGORIES AND CLAUSAL STRUCTURE

### 3.1. Introduction

In a vein similar to Chomsky (1989, 1991, and 1992) and Pollock (1989), this chapter addresses several issues related to functional categories and clausal structure in Korean. This chapter is organized as follows: In section 3.2, I argue that there are several pieces of evidence for positing AGR as a syntactic category in Korean, which might suggest that AGR is a universal syntactic category. However, based on different morphological realizations of AGR, I will suggest that Korean is a [+HON] prominent language. Further, I will argue that subject NPs and object NPs are base-generated VP-internally and move to the Spec of AGR<sub>s</sub>P and AGR<sub>o</sub>P, respectively, to get structural Case through Spec-Head agreement. Section 3.3 suggests, based on Subjacency effects, Scope interaction, and Spec-Head agreement, that C is an independent syntactic head in Korean. In section 3.4, it is suggested that Neg in Korean is a head of NegP. Next, some pieces of crucial evidence supporting the split INFL hypothesis are provided in cases involving negation in Korean. In accounting for two types of negation, I take a minimality-based account of the interaction between verb movement and

negation in negative sentences (Rizzi (1990a)). Further, I suggest that two types of negation in Korean be attributed to the presence of AGRP and NegP. Based on coordination facts, section 3.5 suggests that AGRP and NegP are independent maximal projections of functional categories. Finally, it is claimed that the VP-internal subject hypothesis is needed to account for interaction between active and passive verbs.

### 3.2. Agreement Facts and Case-Marking

#### 3.2.1. Agreement Facts within AGRSP

It has been questioned in traditional Korean linguistics whether Korean has AGR. This subsection is primarily concerned with the following issues.

- (1) a. Does AGRP exist as an independent maximal projection in Korean?
- b. How can nominative Case be assigned?

In order to provide a plausible answer to these questions, I consider a previous approach and raise several problems with the approach. Korean shows subject and verb agreement in which an honorific marker -si is attached to the verb when the referent of the subject of a sentence is respected by a speaker. Consider the following sentences:<sup>1</sup>

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<sup>1</sup> In (2) -u in -usi is inserted when following a consonant. There are two types of nominative Case markers and accusative Case markers in Korean. That is, the nominative marker -i is realized when following a consonant, while -ka is realized when following a vowel. Further, the accusative marker is realized as -ul when following a consonant, whereas

- (2) a. sensayngnim-i chayk-ul ilk-usi-ess-ta  
 teacher -Nom book-Acc read-Hon-Past-Dec

'A teacher read a book.'

- b. \*Chelswu-ka chayk-ul ilk-usi-ess-ta  
 -Nom book-Acc read-Hon-Past-Dec

'Chelswu read a book.'

In (2a) honorific suffix -si is attached to the verb in the sense that the subject is respected, while the honorific suffix -si is not allowed when the subject is not respected, as the ill-formedness of (2b) indicates. This phenomenon has been considered to be an example of agreement between the subject and the verb in Korean syntax (Ahn (1990), Cho (1990), Choe (1988), Han (1987), J.-Y. Yoon (1990), among others).

There have been two opposite positions with regard to the existence of AGR in Korean. Kang (1986) and Kim (1990, 1991), for example, argue that the honorific agreement between subject and verb does not provide positive evidence in Korean that AGR assigns nominative Case to the subject NP. Along this line, assuming the split IP structure, J.-M. Yoon (1990) argues that the existence of AGRP in Korean is dubious and is excluded from the clausal structure of Korean based on coordination facts. On the other hand, Cho (1990), Choe (1988), Han (1987), J.-Y. Yoon (1990), among others, argue that the honorific marker -si provides empirical evidence for

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-lul is realized when following a vowel.

the AGR element responsible for the assignment of nominative Case. Let us observe the following sentences:

- (3) a. *nay-ka sakwa-lul mek-ess-ta*  
 I-Nom apple-Acc eat-Past-Dec  
 'I ate an apple.'
- b. *ne-ka sakwa-lul mek-ess-ta*  
 you-Nom apple-Acc eat-Past-Dec  
 'You ate an apple.'
- c. *John-i sakwa-lul mek-ess-ta*  
 -Nom apple-Acc eat-Past-Dec  
 'John ate an apple.'
- d. *kutul-i sakwa-lul mek-ess-ta*  
 they-Nom apple-Acc eat-Past-Dec  
 'They ate an apple.'

As shown above, there is no overt subject and verb agreement with respect to person, number and gender. Based on this fact, Kang (1986) suggests that there is no positive evidence that in Korean AGR in INFL, if it exists at all, assigns nominative Case, unlike languages such as English. It has been assumed (Chomsky (1981)) that INFL is the head of S (=IP) in English and AGR in INFL assigns nominative Case. Kang, however, argues that V, not INFL, is the head of S in Korean based on the fact that there is no Subject-Aux inversion, as illustrated in (4) (Kang (1986:25-26)):

- (4) a. *John-i w -ess-ta*  
 -Nom come-Past-Dec  
 'John came.'



- b. John-i w -ess-ni?  
-Nom come-Past-Q

`Did John come?'

- c. \*ess John-i o -ni?  
Past -Nom come-Q

`Did John come?'

- d. \*w -ess John-i -ni?  
come-Past -Nom -Q

`Did John come?'

According to Kang, INFL in Korean does not have any independent properties as the head of S, as the ungrammaticality of (4c-d) indicates. He thus concludes that the claim that AGR in INFL assigns nominative Case in Korean is unmotivated. Kang (1986:77), on the other hand, proposes the following Default Case marking for nominative in Korean:

- (5) a. An NP-argument which is a sister of [-stative] V<sup>o</sup> is assigned accusative Case in the course of derivation from D-structure to S-structure.  
b. Nominative Case is assigned to all non-Case-marked NP's.

According to Kang, nominative Case marking applies after accusative Case marking: if an NP is not assigned Case, it is assigned nominative Case.

Kim (1990, 1991) further argues that AGR in INFL is not a Case assigner in Korean. In order to argue that nominative Case in Korean is not assigned by AGR within INFL, consider the following example which she (1990:149) provides:

- (6) halmeni-uy            sayngay-eyse-nun    samsiptay-ka/  
 Grandmother-Gen    life-Loc-Top            thirties-Nom
- haypang-cikhwu-ka                            kacang hayngpokha-si-ess-ta  
 right-after-the Liberation-Nom most be happy-Hon-Past-Dec
- 'In Grandmother's life, (her) thirties/right after the  
 Liberation were the happiest (Hon).'

Kim notes that the NP halmeni 'Grandmother' within the topic phrase 'in Grandmother's life', rather than the subject NP 'thirties/right after the Liberation', triggers the attachment of honorific marker -si to the verb. She suggests that the subject honorific morpheme in Korean is not a realization of AGR in INFL, because the subject honorific marking is triggered by base-generated topic/focus NPs rather than by subject NPs. According to Kim, subject honorific marking on the verb is triggered not only by subject NPs but also base-generated topic/focus NPs.

However, it has been argued that Korean shows subject and verb agreement in which an honorific marker -si is attached to the verb when the referent of the subject of a sentence is higher in the social hierarchy than the speaker (Cho (1990), Choe (1988), Han (1987), J.-Y. Yoon (1990)). Consider the following sentences:

- (7) a. kyoswunim-kkeyse chayk-ul ilk-usi-ess-ta  
 professor-Nom+Hon book-Acc read-Hon-Past-Dec
- 'A professor read a book.'
- b. \*kyoswunim-kkeyse chayk-ul ilk-ess-ta  
 professor-Nom+Hon book-Acc read-Past-Dec
- 'A professor read a book.'

- c. \*John-i chayk-ul ilk-usi-ess-ta  
 -Nom book-Acc read-Hon-Past-Dec

`John read a book.'

- d. \*John-i kyoswunim-ul wihay chayk-ul ilk-usi-ess-ta  
 -Nom professor-Acc for book-Acc read-Hon-Past-Dec

`John read a book for his professor.'

Recall that the honorific nominative marker of -i and -ka, -keyse, is used only when the subject is of higher rank than the speaker. In (7a-b) the honorific subject marker -keyse triggers the attachment of an honorific suffix -si to the verb. On the other hand, the honorific suffix -si is not allowed when the subject is not of higher rank, as the ungrammaticality of (7c) indicates. Furthermore, as seen in (7d), the honorific suffix -si is licensed only by the subject NP. This phenomenon is considered to be an example of agreement between the subject and the verb in Korean syntax.

Now returning to Kim's (1990, 1991) argument that there is no subject and verb agreement marker in Korean, let us consider the sentence in (6), which is reproduced in (8):

- (8) halmeni-uy sayngay-eyse-nun samsiptay-ka/  
 Grandmother-Gen life-Loc-Top thirties-Nom

haypang-cikhwu-ka kacang hayngpokha-si-ess-ta  
 right-after-the Liberation-Nom most be happy-Hon-Past-Dec

`In Grandmother's life, (her) thirties/right after the Liberation were the happiest (Hon).'

Cho (1990) points out that the sentence in (8) is acceptable because the denotation of the subject NP is related to the

referent of the NP 'grandmother'. According to Cho, the denotation of the subject NP 'thirties/right after the Liberation' has to do with the denotation of the NP 'grandmother' within a topic phrase so that native speakers of Korean use the honorific suffix to show their respect to the referent of the NP 'grandmother'. As Cho points out, according to Kim (1990, 1991), if both the topic phrase and the subject NP are linked to the honorific suffix, then the interpretation of the honorification should be ambiguous if a sentence contains both an NP within the topic phrase and a subject NP whose denotations are honorable in Korean culture. This prediction, however, is not borne out, as seen below (Cho (1990)):

- (9) a. halmeni-uy        sayngcon-si-nun halapeci-ka/-kkeyse  
 grandmother-Gen life-time-Top grandfather-Nom/-Nom+Hon  
 kacang hayngpokha-si-ess-ta  
 most    be-happy-Hon-Past-Dec  
 'When Grandmother was alive, Grandfather was the  
 happiest.'
- b. halapeci-uy        sayngcon-si-nun halmeni-ka/-kkeyse  
 grandfather-Gen life-time-Top grandmother-Nom/-Nom+Hon  
 kacang hayngpokha-si-ess-ta  
 most    be-happy-Hon-Past-Dec  
 'When Grandfather was alive, Grandmother was the  
 happiest.'

In (9a) only the subject NP 'grandfather' is linked to the honorific suffix, while in (9b) only the subject NP 'grandmother' is linked to the honorific suffix. Based on

this fact, Cho concludes that the agreement feature [+HON] transmitted from the honorific agreement element *-si* within INFL to the Spec of TP must be discharged to the subject NP. If this is correct, the honorific suffix is the realization of AGR in Korean.

Another piece of evidence that nominative Case is assigned by AGR comes from Ahn's (1990) argument that there is scope interaction in psych-verb constructions. Consider the following example in (10a) (Ahn (1990:215)):

- (10) a. *nwukwu-eykey-na [mwuenka-ka hwhuhoysulep]-ta*  
 everyone-Dat something-Nom is regretful  
 'For everyone, something is regretful.'
- b. [<sub>TP</sub> [<sub>AGR</sub> [<sub>VP</sub> *nwukwu-eykey-na* [<sub>v</sub> *mwuenka-ka hwhuhoysulep*]]]-*ta*]

Ahn postulates the D-structure for (10a) as (10b) in accord with the Universal Thematic Hierarchy (Grimshaw (1990)).<sup>2</sup> As Ahn points out, (10a) is ambiguous: in one reading, the universal quantifier has scope over the existential quantifier; in the other, the reverse is true. According to Ahn, AGR cannot assign nominative Case to the theme NP *mwuenka* 'something' in (10a) because of the minimality condition (Chomsky (1986b), Rizzi (1990a)). Therefore, the theme

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<sup>2</sup> See section 5.3 for peculiar binding effects and scope interpretation in psych-verb constructions. Grimshaw's (1990:24) Thematic Hierarchy is as follows:

(Agent(Experiencer(Goal/Source/Location(Theme))))

See section 5.3 for a detailed discussion of this issue.

argument must move out of its D-structure position to the Spec of TP to receive nominative Case. Accordingly, to get the surface order shown in (10a), the dative NP must be scrambled to sentence-initial position from which it can c-command the theme NP. Consequently, the fact that (10a) involves two movement operations correctly implies that it is ambiguous.<sup>3</sup>

Unlike Korean, however, Arabic has rich morphological agreement which allows a subject to be phonetically null.<sup>4</sup> Consider the following examples (Mohammad (1988:223)):

- (11) a. jaa?a  
came 3sm 'He came.'
- b. jaa?uu  
came 3pm 'They came.'
- c. ji?ti  
came 2sf 'You came.'

---

<sup>3</sup> Syntactic movement triggers semantic ambiguity in human languages. Aoun and Li (1989b), for example, observe that Chinese passives are ambiguous when they involve multiple quantifier phrases, while their active counterparts are not. See Aoun and Li (1989b) for a detailed discussion of scope phenomena.

<sup>4</sup> Spanish and Italian show the same property. Spanish.

- (i) pro Vimos a Juan  
ø (We) saw Juan.
- (ii) pro Baila bien  
ø (He/she) dances well.
- (iii) pro Estamos cansadisimos  
ø (We) are very tired. (Haegeman (1991:417))

English, on the other hand, shows person and number agreement with the subject, but does not show gender agreement, as illustrated in (12):

- (12) a. I/You hit the ball.  
       b. He/She hits the ball.  
       c. They hit the ball.

Based on the different morphological realizations of AGR across languages, following Cho (1990) and J.-Y. Yoon (1990), I suggest that in Korean the honorific AGR is prominent which might suggest that AGR is [+HON] when -si is present, whereas in Spanish and Arabic, person, number and gender AGRs are prominent.

### 3.2.2. Agreement Facts within AGROP

Lefebvre (1992) observes that there is agreement within AGR<sub>o</sub>P in languages like Haitian Creole and Fon<sup>5</sup>, even though they lack overt agreement in person and number. According to Lefebvre, the determiner cannot appear as head of AGR<sub>o</sub>P in the context of a [-deictic] object. Observe the following examples (Lefebvre (1992:143)):

- (13) a. H: \*Yon moun        detwi    yon    manchin    nan  
       F: \*        Sùnù dé    gbà        mtò        dé ,  
               a    man    a    destroy    a        car        a    Det  
               'A man destroyed a car.'

---

<sup>5</sup> Fon is a language of the Kwa family spoken in Benin.

- b. H: \*Yon moun fè yon tab la  
 F: \* Súnù dé bló távò dé ɔ  
 a man Det make a table a Det

`A man made a table.'

- c. H: \*Yon moun bay yon ti-moun liv la a  
 F: \* Súnù dé ná vi dé wémà ɔ ɔ  
 a man a give a child a book Det Det

`A man gave a child the book.'

Lefebvre notes that the sentences in (13) are ungrammatical since the object is [-deictic]. On the other hand, the determiner can appear as head of AGR<sub>o</sub>P in the context of a [+deictic], as seen in (14) (Lefebvre (1992:143)):

- (14) a. H: Yon moun detwi manchin nan an  
 F: Súnù dé gbà mtò ɔ ɔ  
 a man a destroy car Det Det

`A man destroyed the car.'

- b. H: Yon moun fe tab la a  
 F: Súnù dé bló távò ɔ ɔ  
 a man a make table Det Det

`A man made the table.'

Based on the grammatical contrast between (13) and (14), Lefebvre argues that there is agreement in deixis between the delimiting agreement and the head of AGR<sub>o</sub>P. This in turn provides evidence for the projection of AGR<sub>o</sub>P.<sup>6</sup>

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<sup>6</sup> Lefebvre provides evidence for the projection AGR<sub>o</sub>P based on the fact that there is agreement in deixis between the subject of the clause and the clausal determiner.



A piece of crucial evidence for the projection of  $AGR_{\phi}$  in Korean comes from the following sentences which are taken from Kim (1992:120).

- (15) a. *apenim-kkeyse* *cinci-lul* *tusinta/\*meknunta*  
 father-Nom+Hon dinner-Hon-Acc eat-Hon/eat

'My father is having a dinner.'

- b. *na tongsayng-i* *pap-ul* *meknunta/\*tusinta*  
 my brother-Nom dinner-Acc eat/eat-Hon

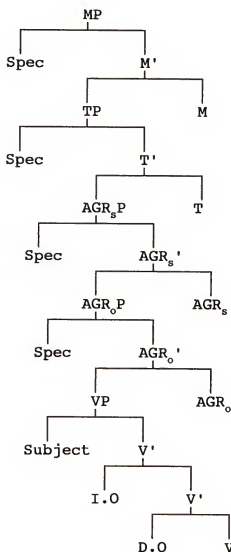
'My brother is having a dinner.'

According to Kim, the honorific verb such as *tusita* 'eat-Hon' not only selects an honorific theme argument *cinci* 'dinner-Hon' as its object, but also agrees with its object. On the other hand, the nonhonorific verb such as *mek* 'eat' cannot co-occur with the honorific object *cinci* 'dinner-Hon', suggesting verb and object agreement, as in the case of subject and verb agreement. If this is the case, it provides a piece of evidence that AGR is a universal syntactic category even though AGR is not overtly realized. Hence, as we discussed in the previous section, the feature [+HON] in Korean should be added to the  $\phi$ -features. Therefore, I argue that the crucial difference among languages like English, Spanish/Arabic and Korean with respect to AGR lies in the different features they select for agreement, i.e., Korean is [+HON] in an AGR system.

### 3.2.3. Clausal Structure and Nominative Case Marking

Based on the existence of  $AGR_sP$  and  $AGR_oP$  discussed in section 3.2.1 and 3.2.2, I suggest, following Ahn and Yoon (1989), Chomsky (1989, 1991, 1992) and Mahajan (1989, 1990b), that the clausal structure in Korean is as in (16):<sup>7</sup>

(16)



<sup>7</sup> MP in (16) refers to Mood Phrase.

Following Chomsky (1989, 1991, and 1992), I assume that agreement facts are accounted for via Spec-Head agreement. I also assume with Mahajan (1989, 1990b) and Chomsky that V is not a structural Case assigner and that structural Case is assigned by Spec-Head agreement. Given this view, subjects and objects are base-generated VP-internally and move to the Spec of  $AGR_sP$  and  $AGR_oP$ , respectively, to get structural Case. This reasoning is plausible due to the fact that scrambling in Korean is an instance of A-movement (Mahajan (1989, 1990b), Saito (1992), and J.-M. Yoon (1991)). That is, movement from within VP to the Spec positions in (16) can be an instance of A-movement.<sup>8</sup> Further, I assume that the Spec positions outside VP to which Case can be assigned are A-positions.

Keeping these theoretical assumptions in mind, I argue that nominative Case in Korean is assigned through Spec-Head agreement. Choe (1988) notes that INFL [ $\pm$ Tense] in Korean can be [ $\pm$ AGR]. This prediction is borne out in nontensed clauses in which nominative Case is assigned to the subject NP (Choe (1988), Han (1987), and J.-Y. Yoon (1990, 1992)). Observe the following sentences<sup>9</sup>:

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<sup>8</sup> Like in Hindi, I assume that  $AGR_sP$  in Korean is active and  $AGR_oP$  is not.

<sup>9</sup> The morpheme -ki in (17) is a nominalizer which attaches to the verbal stem. See section 3.4.1 for a detailed discussion.

- (17) a. [John-i/-eykey i nonmwun-ul ilk-ki]  
 -Nom/-Dat this dissertation-Acc read-Nominal

-ka swip-ta  
 -Nom is easy

'It is easy for John to read this dissertation.'

- b. \*[John-i i nonmwun-ul ilk-ulkes-ki]-ka swip-ta  
 -Nom this diss.-Acc read-Fut-Nominal-Nom is easy

'It will be easy for John to read this dissertation.'

Notice that the sentence in (17a) with [-Tense] in the embedded clause is grammatical, while (17b) with [+Tense] is ungrammatical. Therefore, as Mohammad Mohammad (p.c.) pointed out to me, (17b) can be ruled out since nominative Case is not assigned by [+Tense] in Korean. Recall, however, that the honorific marker can be inserted in (17a), as illustrated in (18):

- (18) [kyoswunim-kkeyse i nonmwun-ul ilk-usi-ki]  
 professor-Nom+Hon this dissertation-Acc read-Hon-Nominal

-ka swip-ta  
 -Nom is easy-Dec

'It is easy for a professor to read this dissertation.'

Based on the fact above, we may claim that AGR assigns nominative Case in Korean.

This prediction is further supported by the following control structures, which are taken from Borer (1989:85)<sup>10</sup>:

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<sup>10</sup> The embedded subject must be co-indexed with the matrix subject, regardless of the fact that the embedded subject position is not phonologically realized as in (19a) or governed and Case-marked as in (19b-c). Therefore, Borer notes that these examples pose a problem for the control

- (19) a. John<sub>i</sub>-i [<sub>CP</sub> e<sub>i</sub> ttena-lye-ko] nolyek-ha-ess-ta  
           -Nom       leave-Infl-Comp try -do-Past-Dec
- b. John<sub>i</sub>-i [<sub>CP</sub> ku<sub>i</sub>-ka ttena-lye-ko] nolyek-ha-ess-ta  
           -Nom       he-Nom leave-Infl-Comp try -do-Past-Dec
- c. John<sub>i</sub>-i [<sub>CP</sub> caki<sub>i</sub>-ka ttena-lye-ko] nolyek-ha-ess-ta  
           -Nom       self-Nom leave-Infl-Comp try -do-Past-Dec
- `John tried to leave.'

Even though the embedded clauses in (19b-c) do not contain Tense, the subject NPs, i.e., ku 'he' in (19b) and caki 'self' in (19c) are nominative Case marked, which implies that nominative Case is not licensed by [+Tense] in Korean. Furthermore, as Choe (1988) notes, the matrix verb does not govern the embedded subject because the accusative Case marker -lul of the embedded subject is not allowed, as the ungrammaticality of (20) shows:

- (20) \*John<sub>i</sub>-i [<sub>CP</sub> ku<sub>i</sub>/caki<sub>i</sub>-lul ttena-lye-ko] nolyek-ha-ess-ta  
           -Nom       he/self-Acc   leave-Infl-Comp try-do-Past-Dec
- `John tried to leave.'

---

theory, which accounts for the distribution and the reference of the pronominal anaphor PRO. To account for this, she assumes that AGR is anaphoric and thus is subject to the binding condition (A) of the binding theory. She further assumes that the C cliticizes to IP, creating an empty C. Once the C position is empty, the AGR is free to move to that position. When AGR moves to C, it cannot be bound by its own I-Subjects, since they do not c-command the raised AGR. The raised AGR, however, can be bound by a matrix argument John, satisfying binding condition (A). When the AGR is bound and hence co-indexed with the antecedent, the embedded I-Subject can be co-indexed with the antecedent via the transitivity of co-indexation.

It has been argued that NP-movement is instantiated to avoid Case Filter<sup>11</sup> as in passive and raising constructions, as shown below:

- (21) a. John believes [Mary to be intelligent].  
 b. Mary<sub>i</sub> is believed [t<sub>i</sub> to be intelligent].

An exceptional Case marking (ECM) verb such as believe in (21a) governs Mary, the subject of the infinitival clause, to assign accusative Case. On the other hand, passive verbs absorb a Case, so that the subject of the embedded clause as a last resort must move to the Spec of TP to get nominative Case, which is called NP-movement. Let us consider Korean counterparts of (21):

- (22) a. John-i [Mary-lul ttokttokha-ta-ko] mit-nun-ta  
           -Nom    -Acc intelligent-Dec-Comp believe-Pres-Dec  
           'John believes Mary to be intelligent.'  
 b. Mary<sub>i</sub>-ka [t<sub>i</sub> ttokttokha-ta-ko] mit-eci-n-ta  
           -Nom    intelligent-Dec-Comp believe-Pass-Pres-Dec  
           'Mary is believed to be intelligent.'

As Ahn and Yoon (1989) argue, if AGR<sub>s</sub> in Korean has its own maximal projection, Mary moves to the Spec of AGR<sub>s</sub> where nominative Case is assigned. The externalization of a nonthematically related argument for the passive verb in (22b) indicates that Korean has syntactic movement for passive

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<sup>11</sup> The Case Filter is defined as follows (Chomsky (1981:19)):

\*NP if NP has phonetic content and has no Case.

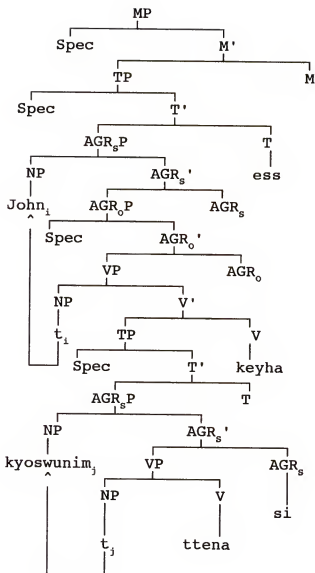
similar to the account in (21b) for English. This further supports the existence of the maximal projection of  $AGR_P$  in Korean.

Now I provide further evidence for the idea that AGR is a nominative Case assigner in Korean. Observe the following sentences:

- (23) a. John-i [kyoswunim-kkeyse ttena-si] keyha-ess-ta  
           -Nom professor-Nom+Hon leave-Hon cause-Past-Dec  
       `John caused his professor to leave.'  
       b. \*John-i [kyoswunim-kkeyse ttena-si-lkes] keyha-n-ta  
           -Nom prof.-Nom+Hon leave-Hon-Fut cause-Pres-Dec  
       `\*John causes his professor to will leave.'

In (23a) kyoswunim 'professor', the subject of the embedded clause, is assigned nominative Case even if the embedded INFL is [-Tense]. Interestingly, the sentence in (23b) where embedded clause is [+Tense] is ungrammatical. This suggests that [+Tense] is not a nominative Case assigner in Korean. The sentence in (23a) is represented as follows (irrelevant details are omitted):

(24)



In (24) the NPs John and kyoswunim 'professor' move to the Spec of AGR<sub>s</sub> where nominative Case is assigned via Spec-Head agreement. The verb ttena 'leave' goes all the way up to Tense by successive head-to-head movement.<sup>12</sup>

<sup>12</sup> The following sentence, where the causee NP kyoswunim 'professor' is assigned accusative Case, is also acceptable.



### 3.2.4. Plural Copying as Number Agreement

It has been observed by Kuh (1987) and Kim (1990), among others, that the plural marker -tul in Korean can be copied onto other categories, such as verbs, adverbs, complements, and prepositions. Observe the following examples:

- (25) a. haksayng-tul-i tallie-tul-ka-ess-ta  
 student-PL-Nom run-PL-go-Past-Dec  
 'Students ran away.'
- b. \*John-i tallie-tul-ka-ess-ta  
 -Nom run-PL-go-Past-Dec  
 'John ran away.'
- c. haksayng-tul-i ppalli-tul tallie-ka-ess-ta  
 student-PL-Nom quickly-PL run-go-Past-Dec  
 'Students ran away quickly.'
- d. \*John-i ppalli-tul tallie-ka-ess-ta  
 -Nom quickly-PL run-go-Past-Dec  
 'John ran away quickly.'
- e. John-i [haksayng-tul-i tallie-ka-ess-ta-ko-tul]  
 -Nom student-PL-Nom run-go-Past-Dec-Comp-PL  
 malha-ess-ta  
 say-Past-Dec  
 'John said that students run away.'

- 
- (i) John-i [kyoswunim-ul ttena-si] keyha-ess-ta  
 -Nom professor-Acc leave-Hon cause-Past-Dec

'John caused his professor to leave.'

One plausible solution, as Gary Miller (p.c.) pointed out to me, is that causative verbs in Korean subcategorize different categories, i.e., AGRP or CP (cf. Baker (1988), Li (1990)). That is, verbs in the matrix clause, say, keyha, assign accusative Case to the causee NP.

- f. \*John-i [Mary-ka tallie-ka-ess-ta-ko-tul] malha-ess-ta  
 -Nom -Nom run-go-Past-Dec-Comp-PL say-Past-Dec

'John said that Mary run away.'

- g. haksayng-tul-i suphwun-ulo-tul mek-ess-ta  
 student-PL-Nom spoon-with-PL eat-Past-Dec

'Students ate with a spoon.'

- h. \*John-i suphwun-ulo-tul mek-ess-ta  
 -Nom spoon-with-PL eat-Past-Dec

'John ate with a spoon.'

The plural marker -tul can be attached to verbs as in (25a), to adverbs as in (25c), to complementizers as in (25e), and to postpositions as in (25g). The plural marker -tul appearing on these nonnominal categories always indicates the plurality of the subject of the clause, as the ungrammaticality of (25b, d, f, h) shows.

Moreover, the experiencer NP behaves like a regular subject with respect to the plural marker, as Kim (1990) and Gerdtz and Youn (1988) note. This is illustrated by the following examples from Kim (1990:247):

- (26) a. i salam-tul-eykey/-i ton-i manhi  
 this person-PL-Dat/-Nom money-Nom a lot  
 philyo-tul-ha-ta  
 need-PL-do-Dec

'These people need a lot of money.'

- b. ce haksayng-tul-eykey/-i kongpwu-ka cikyep-ci-tul  
that student-PL-Dat/-Nom study-Nom be-boring-PL

-to ani-ha-n-ka-po-ta  
even not-do-Pres-seem-Dec

`It seems that those students are not bored with  
(their) studies.'

As illustrated in (26), the plural marker -tul indicates the plurality of the experiencer argument. Based on plural copying, Kim (1990) concludes that these NPs are the subjects of their clauses.

Furthermore, as Choe (1988) points out, the domain of its realization is clause-bounded, as in (27):

- (27) a. haksayng-tul-i [John-i ttena-ess-ta-ko] mal-tul  
student-PL-Nom -Nom leave-Past-Dec-Comp say-PL

-ha-ess-ta  
-do-Past-Dec

`Students said that John leaves.'

- b. \*John-i [haksayng-tul-i ttena-ess-ta-ko] mal-tul  
-Nom student-PL-Nom leave-Past-Dec-Comp say-PL

-ha-ess-ta  
-do-Past-Dec

`John said that students leave.'

The plural marker fails to occur across a clause, as the ill-formedness of (27b) shows. Coupled with honorific agreement, as we have discussed in the previous sections, based on plural copying, we may conclude that the honorific and plural markers are realizations of [+AGR] in Korean. Hence, AGR in Korean is an independent syntactic head which assigns nominative Case.

### 3.3. The Status of CP

#### 3.3.1 Subjacency Effects

Huang (1982) argues that even though wh-phrases in Chinese stay in situ in syntax, they move at LF. He further argues that parametric differences between English and Chinese can be accounted for by saying that LF wh-movement does not obey Subjacency, while syntactic movement is subject to Subjacency, which is assumed to be a condition on movement. This analysis is illustrated in the following examples (Huang (1982:492-493))<sup>13</sup>:

- (28) a. \*Zhangsan<sub>i</sub>, [<sub>TP</sub> wo mai-le [<sub>NP</sub>[<sub>TP</sub> t<sub>i</sub> xie] de shu]]  
           I buy-ASP write DE book

‘\*Zhangsan<sub>i</sub>, I bought books that t<sub>i</sub> wrote.’

- b. [<sub>TP</sub> ni mai-le [<sub>NP</sub>[<sub>TP</sub> shei xie] de shu]]?  
       you buy-ASP who write DE book

‘Who is the x such that you bought books that x wrote?’

- (29) a. \*Zhangsan<sub>i</sub>, [<sub>TP</sub> wo xihuan [<sub>NP</sub>[<sub>TP</sub> ni piping t<sub>i</sub> ]  
           I like you criticize

de wenzhang]]  
 DE article

‘\*Zhangsan<sub>i</sub>, I like the articles in which you criticize t<sub>i</sub>.’

- b. [<sub>TP</sub> ni xihuan [<sub>NP</sub>[<sub>TP</sub> wo piping shei] de wenzhang]]?  
       you like I criticize who DE article

‘Who is the x such that you like the articles in which I criticize x?’

---

<sup>13</sup> Thanks go to Mohammad Mohammad (p.c.) for having directed my attention to this paradigm.

In (28a) and (29a), topicalization at S-structure crosses two bounding nodes, TP and NP, thus violating Subjacency. Therefore, the ungrammaticality of (28a) and (29a) follows from Subjacency. On the other hand, as shown in (28b) and (29b), although LF wh-movement of shei 'who' from the embedded object position crosses the same two bounding nodes, NP and TP, this movement does not induce Subjacency, because the wide scope interpretation of shei 'who' shows up.

As in Chinese, LF wh-movement in Korean does not obey Subjacency, either. Relevant examples are as follows:

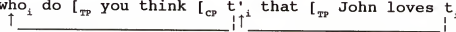
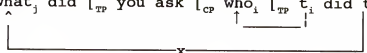
- (30) a. ne-nun John-i nwukwu-lul salangha-n-ta-nun somwun-ul  
           you-Top -Nom who-Acc love-Pres-Dec-Comp rumor-Acc  
           mit-ni?  
           believe-Q  
           'Who<sub>i</sub> do you believe the rumor that John loves t<sub>i</sub>?'
- b. ne-nun nwukwu-ka Mary-lul salangha-n-ta-nun somwun-ul  
           you-Top who -Nom -Acc love-Pres-Dec-Comp rumor-Acc  
           mit-ni?  
           believe-Q  
           'Who<sub>i</sub> do you believe the rumor that t<sub>i</sub> loves Mary?'

Notice that wh-phrases here cross two bounding nodes, NP and TP.<sup>14</sup> The grammaticality of (30), however, suggests that LF wh-movement in Korean is not subject to Subjacency.

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<sup>14</sup> Rizzi (1982) suggests that, unlike English, in Italian the bounding nodes are NP and CP. This suggestion, however, cannot be extended to Korean, as the grammaticality of (30) indicates. Notice that the wh-phrases cross NP and CP.

It has been assumed that the Spec of CP is an escape hatch for Subjacency, as shown below:

- (31) a.  $\text{who}_i \text{ do } [_{TP} \text{ you think } [_{CP} t'_i \text{ that } [_{TP} \text{ John loves } t_i]]]?$   
  
 b.  $*\text{what}_j \text{ did } [_{TP} \text{ you ask } [_{CP} \text{ who}_i [_{TP} t_i \text{ did } t_j]]]?$   


In (31a) the wh-phrase in the embedded clause moves to the Spec of CP in the matrix clause through Spec-to-Spec movement, satisfying Subjacency. On the other hand, in (31b) Spec-to-Spec movement is blocked since the Spec of CP of the embedded clause is already filled by a wh-phrase. Hence the wh-phrase must move to the Spec of CP in the matrix clause directly, crossing two bounding nodes, i.e., two TPs.

LF wh-movement, which is assumed to allow wh-phrases in situ to move into the Spec of CP at LF, motivates the Spec of CP in matrix clauses in languages like Korean. Choe (1988) observes that unlike the usual wh-in-situ phrases, two types of wh-phrases, i.e., which-phrases and wh-phrases linked with totaychey 'on earth' or 'the hell', obey Subjacency in Korean. Consider the following examples:

- (32) a. ??ne-nun [<sub>NP</sub> [<sub>CP</sub> [<sub>TP</sub> enu chinkwu-ka Mary-lul salangha-  
                   you-Top                   which friend-Nom       -Acc love  
                   n-ta-nun]                   somwun]-ul mit-ni?  
                   Pres-Dec-Comp rumor -Acc believe-Q  
                   'Which friend<sub>i</sub> do you believe the rumor that t<sub>i</sub> loves Mary?'

- b. ??ne-nun [<sub>NP</sub> [<sub>CP</sub> [<sub>TP</sub> John-i totaychey mwues-ul  
 you-Top -Nom what the hell what-Acc  
 sa-ess-ta] -nun] somwun]-ul mit-ni?  
 buy-Past-Dec-Comp rumor -Acc believe-Q  
 'What the hell<sub>i</sub> do you believe the rumor that John  
 bought t<sub>i</sub>?'  
 c. ne-nun [<sub>CP</sub> [<sub>TP</sub> John-i enu sosel-ul ilk-ess-ta]-ko]  
 you-Top -Nom which novel-Acc read-Past-Dec-C  
 sayngkakha-ni?  
 think-Q  
 'Which novel<sub>i</sub> do you think that John read t<sub>i</sub>?'  
 `Which novel<sub>i</sub> do you think that John read t<sub>i</sub>?'`

In (32a-b) wh-phrases such as which friend and what the hell move to the Spec of CP at the matrix clause, crossing two bounding nodes, NP and TP. As Choe notes, the marginality of (32a-b) indicates that the sentences instantiate Subjacency effects. On the other hand, in (32c) the Spec of CP can serve as an escape hatch so that Subjacency effects are not observed. Based on this fact, Choe argues that C is an independent syntactic head in Korean.<sup>15</sup>

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<sup>15</sup> Pesetsky (1987) argues that in Japanese, what the hell phrases, like usual wh-in-situ phrases, obey Subjacency, while which phrases which are D(-iscourse) linked wh-phrases do not show Subjacency effects, unlike Korean.

- (1) (i) Mary-wa [<sub>NP</sub> [<sub>CP</sub> John-ni nani-o ageta] hito-ni] atta-no?  
 -Top -Dat what-Acc gave man-Dat met-Q  
 '\*What<sub>i</sub> did Mary meet [the man [who gave t<sub>i</sub> to John]]?'  
 (ii) Mary-wa [John-ga nani-o yomu mae-ni] dekaketa-no?  
 -Top -Nom what-Acc read before left-Q  
 '?\*What<sub>i</sub> did Mary leave before John read t<sub>i</sub>?'  
 (Pesetsky(1987:110))





The only difference between (33a) and (33b) is that in the former the embedded clause has an interrogative ending .i.e., -nunyako '-Q', whereas in the latter it has a declarative ending, -tako 'Dec'. Choi (1989, 1991), however, notes that there is a difference between the two sentences with respect to the scope of the wh-phrase. That is, in (33a) the wh-phrase nwukwu 'who' in the embedded clause has only a narrow scope interpretation, i.e., it can only be interpreted as a yes-no question. On the other hand, (34b) can be interpreted not only as a yes-no question but also as a wh-question. To account for this contrast, Choi suggests that the wh-phrase moves to the Spec of CP to receive interpretation. This in turn provides evidence that C is an independent head in Korean.<sup>16</sup>

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<sup>16</sup> Fukui (1986, 1987) argues that in Japanese the question morpheme ka and the subordinate clause marker to are not complementizers but rather a noun which bears the feature [+Q] and a postposition, respectively, as illustrated below:

- (i) dare-ga sore-o kaimasi-ta-ka  
 who-Nom it-Acc buy-Past Q

'Who bought it?' (Fukui (1986:215))

- (ii) [<sub>PP</sub> John-kare] wa nagaikoto tegami-ga konai  
 from -Top for a long time letter not come

'It is from John that letters have not come for a long time.' (Fukui (1986:220))

Based on this fact, Fukui suggests that there is no CP in Japanese, since there is no complementizer.

### 3.3.3 Wh-Phrases and Spec-Head Agreement

C.-M. Suh (1989) observes that the Kyongsang dialect<sup>17</sup> of Korean shows an agreement phenomenon of the wh-phrases and the wh-question sentence final morpheme -ko or its allomorph -o. According to Suh, the interrogative morpheme -ka is used in yes/no questions and the morpheme -ko is used in wh-questions.

- (34) a. ce sinsa-ka                      kyoswunim-i-ka?  
           that gentlemen-Nom    professor be Q

      `Is that gentleman a professor?'

- b. ni wuncey John-ul mannalki-ko?  
           you when            -Acc meet        Q

      `When are you going to meet John?'

In (34a) the morpheme -ka is used after the copular -i in yes/no questions, while in (34b) the morpheme -ko is used after the copular -i in wh-questions.<sup>18</sup> However, the morphemes -na and -ka are used in yes/no questions and wh-questions, respectively, after a prefinal morpheme, as illustrated in (35):

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<sup>17</sup> Kyongsang is the southeastern part of the Korean peninsula.

<sup>18</sup> Miyagawa (1987:362) independently observes that a question in Japanese can be formed by attaching the interrogative morphemes no and/or ka, as in (i) and (ii):

- (i) Dare ga kuru no?  
       who-Nom come Q    `Who will come?'

- (ii) Hanako ga kuru no ka?  
       -Nom come    Q    `Will Hanako come?'

- (35) a. John-i mwe-lul muk-ess-na?  
 -Nom what-Acc eat-Past-Q

`Did John eat something?'

- b. John-i mwe-lul muk-ess-no?  
 -Nom what-Acc eat-Past-Q

`What did John eat?'

The only difference between (35a) and (35b) is that in the former the interrogative morpheme is -na, while in the latter it is -no. However, when the morpheme is -na, we obtain a yes/no question, whereas when it is -no, we obtain a wh-question.

C.-M. Suh (1989) further notes that in the embedded sentences these agreement phenomena are divided into two cases. First, when the wh-phrase is contained in the embedded interrogative sentence, the [+WH] indirect question morpheme -ko is used in the embedded Comp position. Notice that the [+WH] feature of the wh-phrase agrees with that of -ko in the embedded clause, so that -na is selected as the matrix clause final morpheme. In this case, the embedded clause is interpreted as a wh-question, while the matrix clause is interpreted as a yes/no question. This is fulfilled as illustrated in (36) (C.-M. Suh (1989:521)):

- (36) a. ni-nun Swuni-ka etey-ey ka-ess-nun-ko molwu-na?  
 you-Top -Nom where go-Past-Det-[+WH] not know-[-WH]

`Don't you know where Swuni went?'

- b. Yengi-nun Swuni-ka nwu-lo cohaha-nun-ko mwul-ess-na?  
 -Top -Nom who-Acc like -[+WH] ask-Past-[-WH]

'Did Yengi ask whom Swuni liked?'

Second, when the interrogative morpheme -no occurs in the embedded clause, the whole sentence is interpreted as a wh-question even if the wh-phrase is contained in the embedded clause. Some relevant examples are provided in (37):

- (37) a. ni-ka [John-i mwe-lul sa-ess-ta-ko] sayngkakha-no?  
 you-Nom -Nom what-Acc buy-Past-Dec-Comp think-Q

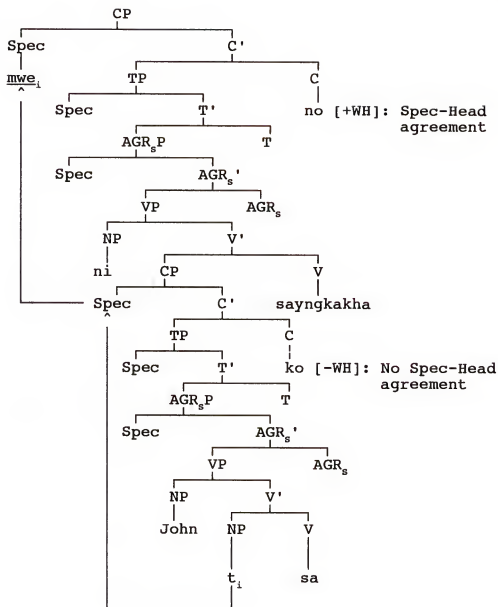
'What<sub>i</sub> do you think that John bought t<sub>i</sub>?'

- b. ni-nun [John-i etey-ey ka-ess-ta-ko] sayngkakha-no?  
 you-Top -Nom where-Loc go-Past-Dec-Comp think-Q

'Where<sub>i</sub> do you think that John went t<sub>i</sub>?'

Based on these phenomena, C.-M. Suh (1989) concludes that wh-phrases move to the Spec of CP at LF in Korean. If this is correct, it fits into our analysis, i.e., Spec-Head agreement. The structure of (37a) is depicted as follows:

(38)



It has been noted in Rizzi (1990b) that the distribution of wh-phrases is determined by the following Wh-Criterion at LF:

(39) The Wh-Criterion (Rizzi (1990b:378))

- a. Each +wh  $X^0$  must be in a Spec-Head relation with a wh-phrase.

- b. Each wh-phrase must be in a Spec-Head relation with a +wh  $X^0$ .

According to Rizzi, (39) is regarded as a Criterion of well-formedness on LF expressing the way in which wh-expressions are assigned scope.

Returning to (38), in accordance with the Wh-Criterion in (39), the Comp in the embedded clause has the [-WH] feature, so that it cannot participate in Spec-Head agreement with mwe 'what' which has the [+WH] feature. Therefore, the wh-phrase must move to the Spec of CP in the matrix clause through Spec-to-Spec movement and therefore Spec-Head agreement is possible, since the interrogative morpheme -no in the head of the CP in the matrix clause is [+WH]. Hence, the example in (37a) is interpreted as a wh-question. This further suggests that C is an independent syntactic head in Korean.

#### 3.4. Negative Sentences: Two Types of Negation

##### 3.4.1. "-Ci" as an Allomorph of "-Ki"

As seen in (40b-c), there are two types of negation in Korean:

- (40) a. *sensayngnim-i haksayng-ul manna-si-ess-ta*  
 teacher-Nom student-Acc meet-Hon-Past-Dec  
 'A teacher met a student.'
- b. *sensayngnim-i haksayng-ul ani manna-si-ess-ta*  
 teacher-Nom student-Acc not meet-Hon-Past-Dec  
 'A teacher did not meet a student.'

c. sensayngnim-i haksayng-ul manna-si-ci ani-ha-ess-ta  
 teacher-Nom student-Acc meet-Hon-Nomi not-do-Past-Dec

'A teacher did not meet a student.'

(40b) is referred to as pre-verbal negation since ani 'not' is immediately followed by the main verb. On the other hand, (40c) is referred to as post-verbal negation in that the negative morpheme ani is preceded by a main verb manna 'meet', which is also followed by a nominalizer -ci.<sup>19</sup> Furthermore, in post-verbal negation, the dummy verb HA 'DO'-Support is invoked to support the stranded Tense morpheme in (40c) (Han (1987)), which is similar to English (Chomsky (1989, 1991)). Notice that ani intervenes between the verb and the tense morpheme, resulting in a stranding of the tense morpheme. As shown in (40c), when a verbal stem in Korean is separated from the tense morpheme, -ci is attached to the verbal stem. It has been assumed in traditional Korean syntax (Song (1977)) that functional elements, -ki and -ci are allomorphs of one morpheme which is a nominalizer. As many linguists have noted, the element -ki is used as a nominalizer of the verb, as illustrated in (41) (Kang (1988)):

- (41) a. talli-ta ---> [[talli]<sub>v</sub>-ki]<sub>n</sub>  
       'run'              'running'  
       b. ttena-ta ---> [[ttena]<sub>v</sub>-ki]<sub>n</sub>  
       'leave'          'leaving'

---

<sup>19</sup> These two variants have been called short form negation and long form negation; type I negation and type II negation; pre-verbal negation and post-verbal negation, respectively.

- c. cwul nem-ta ---> [[cwul nem]<sub>v</sub>-ki]<sub>N</sub>  
     `rope jump'              `rope-jumping'

Furthermore, Song (1977) notes that both -ki and -ci are nominalizers in complementary distribution. The former is used in affirmative sentences, while the latter is used in negative sentences:

- (42) a. hakkyo-ey ka-ki (-ka)        himtul-ta  
           school-to go-Nomi (-Nom)    difficult  
           `It is difficult to go to school.'
- b. \*hakkyo-ey ka-ci (-ka)       himtul-ta  
           school-to go-Nomi (-Nom)    difficult  
           `It is difficult to go to school.'

Second, -ki appears in the VP-focus constructions, while -ci appears in the post-verbal negation, as in (43) (Kang (1988)):

- (43) a. John-i ku chayk-ul ilk-ki (-\*ci)-nun ha-ess-ta  
           -Nom that book-Acc read-Nomi -Cont do-Past-Dec  
           `Read the book, John did....'
- b. John-i ku chayk-ul ilk-ci (-\*ki) ani-ha-ess-ta  
           -Nom that book-Acc read-Nomi        not-do-Past-Dec  
           `John did not read the book.'

Third, as Kang (1988) and J.-Y. Yoon (1990) point out, both can be followed by an accusative Case marker.

- (44) a. John-i o-ki-lul            ha-ess-ta  
           -Nom come-Nomi-Acc do-Past-Dec  
           `John came.'



b. John-i o-ci-lul        ani ha-ess-ta  
       -Nom come-Nomi-Acc not do-Past-Dec

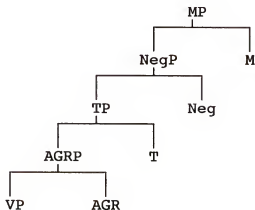
'John did not come.'

Based on this fact, it is a natural assumption that -ci is an allomorph of -ki.

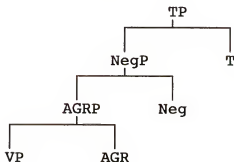
### 3.4.2. The Position of NegP

Given the assumption that Korean allows the split IP structure, there are three available positions for the negative morpheme ani 'not', as exemplified in (45) (See Benmamoun (1989) for Arabic):

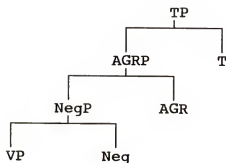
(45) a.



b.



c.



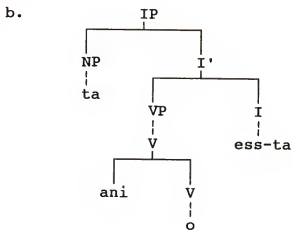
The structure in (45a) cannot be correct since V moves to AGR, forming [<sub>AGR</sub> V-AGR] and this complex element is further moved to T, forming [<sub>T</sub> V [<sub>AGR</sub> V-AGR]], and finally the complex T moves to M crossing over Neg, thereby inducing a violation of the ECP, since Neg is a potential antecedent governor intervening between the moved complex T and its trace. Recall that the trace of T cannot be deleted (Chomsky (1989, 1991)). For the structure in (45c) to be well-formed, we have to assume that the verb moves to AGR across the negative morpheme. This is, however, a clear violation of the ECP, because the trace of V cannot be deleted. The structure in (45b) makes the correct prediction since the raising of the complex element [<sub>AGR</sub> V-AGR] to T over Neg does not violate the ECP in that the trace of AGR is deleted in accordance with the principle of Full Interpretation (Chomsky (1986a)). This is because the trace of AGR plays no role at LF (Chomsky (1989, 1991)). Therefore, NegP in Korean is positioned higher than AGRP and lower than TP in clausal projections.

### 3.4.3. Validity of a Single Underlying Representation

Early works on negation in Korean have been concerned with the issue of whether two types of negation have the same or different underlying representations. The synonymy of the sentences in (40) led several linguists (Lee (1970), Oh (1971)) to assume that both have the same underlying representation. More recently, however, some linguists recognized that the two forms may not be synonymous. Han (1987), for example, proposes that when negation ani is adjoined to a verb, we obtain pre-verbal negation, as in (46):

- (46) a. ta ani o-ess-ta  
all not come-Past-Dec

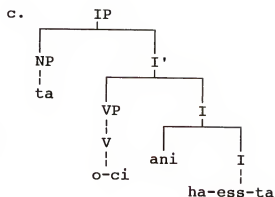
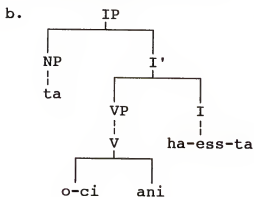
'Nobody came.'



According to Han, there are two possible structures for post-verbal negation, i.e., negation is either adjoined to I or to V, depending on which verbal element ani is adjoined to, as seen below:

- (47) a. ta o-ci ani-ha-ess-ta  
all come-Nomi not-do-Past-Dec

`Nobody came.'  
`Not everybody came.'



Han notes that (46a) involving pre-verbal negation is unambiguous; negation cannot take wide scope over the universal quantifier (UQ) ta 'all' in the subject position, while (47a) involving post-verbal negation is ambiguous. The negation can take wide or narrow scope over the subject NP. To account for the difference in scope, he argues that in (46b) the m-command domain of ani is just the VP. Therefore, (46) has one reading, 'For all x, x did not come' meaning 'nobody came'.

On the other hand, according to Han, in the post-verbal negation, there are two scope domains of the negative morpheme ani. That is, in (47b) the m-command domain of ani is just the VP, yielding the same interpretation as (46). In (47c), however, the m-command domain of ani is the whole sentence

including the UQ, which causes ani to have scope over the UQ.<sup>20</sup>

In what follows, however, I provide evidence that the two types of negation in Korean are derived from one underlying representation. First, unlike English, the negative polarity items (NPIs) in Korean such as amwuto 'anyone' are allowed in the subject position for both types of negation,<sup>21</sup> as Ahn and Yoon (1989) and J.-Y Yoon (1990) note.

- (48) a. \*amwuto John-ul manna-ess-ta  
           anyone       -Acc meet-Past-Dec  
           'Anyone met John.'

---

<sup>20</sup> Incidentally, J.-H. Suh (1989) notes that in (47a) the alleged subject quantifier ta 'all' is not a subject quantifier. According to her, it is an adverbial, like English all that floats around. Evidence of this can be found in the fact that in (47a) the element ta cannot have a nominative Case marker, as in (i):

- (i) \*ta-ka o-ci ani-ha-ess-ta  
       all-Nom come-Nominal not-do-Past-Dec  
       'All did not come.'

Based on this, she argues that ta in (47a) is an adverbial quantifier.

<sup>21</sup> It is a well-known fact that English displays subject and object asymmetry with respect to NPIs in that negation licenses object NPIs, but not subject NPIs, as illustrated in (i):

- (i) (i) \*Anyone did not meet John.  
       (ii) John did not meet anyone.

On the other hand, in head-final languages such as Korean, Japanese, Basque, and Hindi, subject NPI is licensed by negation, as shown in (48). See chapter 4 for a detailed discussion of NPI licensing.

- b. amwuto John-ul ani manna-ess-ta  
 anyone -Acc not meet-Past-Dec

`Nobody met John.'

- c. amwuto John-ul manna-ci ani-ha-ess-ta  
 anyone -Acc meet-Nomi not-do-Past-Dec

`Nobody met John.'

As illustrated in (48b-c), for both types of negation, the NPI amwuto in the subject position is licensed through the negation ani, so that the subject NP is within the scope of the negation.

Second, negative sentences in Korean display subject and object asymmetry with respect to scope (Kwon (1992c) and J.-H. Suh (1989)); if the UQ motun 'all' occupies subject position, it always has wide scope over the negation even in post-verbal negation constructions. On the other hand, if the UQ is placed in object position, scope ambiguity arises, as in (49) below. This refutes Han's observation<sup>22</sup>:

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<sup>22</sup> It seems to me that motun 'all' behaves differently from motwu 'all', as the ungrammaticality of (i) indicates:

- (i) \*motwu haksayng-i o-ci ani-ha-ess-ta  
 all student-Nom come-Nomi not-do-Past-Dec

`All the students did not come.'

That is, the former is an adjective, while the latter is a secondary predicate. It is suggested in Kwon (1991) that the ungrammaticality of (i) is attributed to the ECP, assuming that a numeral quantifier is a secondary predicate in Korean. See Kwon (1991) for a detailed discussion of numeral quantifier constructions (NQC)s and inalienable possession constructions (IPC)s in Korean.

- (49) a. motun haksayng-i o -ci ani ha-ess-ta  
all student-Nom come-Nominal not do-Past-Dec

'All the students did not come.'

- b. John-i motun whisky-lul masi-ci ani-ha-ess-ta  
-Nom all -Acc drink-Nominal not-do-Past-Dec

'John did not drink all the whisky.'

'It is not the case that John drank all the whisky.'

In (49b) negation can take wide or narrow scope over the UQ. Based on these phenomena, I argue that the pre-verbal negation and the post-verbal negation are the same with respect to the scope of negation.

#### 3.4.4. Minimality and Head Movement

Based on the reasoning suggested thus far, I assume that the two types of negation in (40), which are reproduced in (50), have the following D-structure in (51) (cf. Ahn and Yoon (1989) and J.-Y. Yoon (1990)):

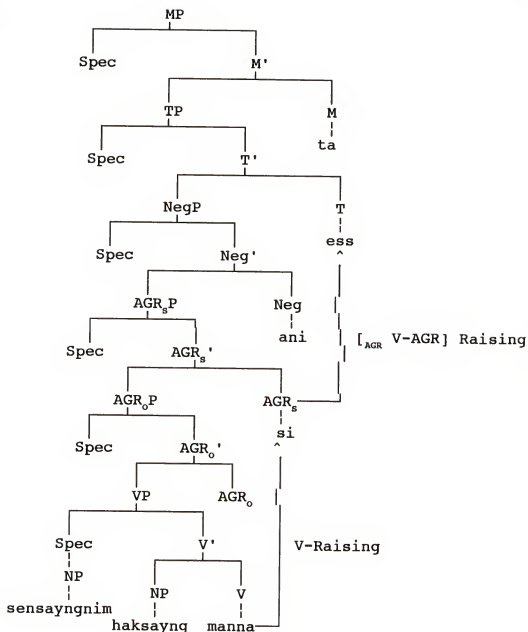
- (50) a. sensayngnim-i haksayng-ul ani manna-si-ess-ta  
teacher-Nom student-Acc not meet-Hon-Past-Dec

'A teacher did not meet a student.'

- b. sensayngnim-i haksayng-ul manna-si-ci ani-ha-ess-ta  
teacher-Nom student-Acc meet-Hon-Nominal not-do-Past

'A teacher did not meet a student.'

(51)



With the identical D-structure (51), when the verb moves to AGR, but V + AGR does not move at S-structure, we obtain (50b). Notice that as a last resort HA 'DO'-Support, which is a language-specific process, is used to support a stranded Tense in (50b), as in English. On the other hand, when the



verb moves to AGR and then the complex AGR [<sub>AGR</sub> V-AGR], crossing the negative morpheme ani, raises to T at S-structure, we get (50a) (Park (1991), J.-Y. Yoon (1990)).

A question to be considered is why V-raising over Neg is allowed in Korean, but not in English. To account for the contrast, let us consider sentences in English in (52):

- (52) a. \*John <sub>i</sub> not write-s<sub>i</sub> books.  
 b. John does not write books.

Recall that the LF movement of the main verb is needed to check all features in comparable contexts (Chomsky (1992)). At LF, in order to check features, the main verb moves to T over negation. This movement of complex V over negation violates the ECP, since the complex V cannot antecedent govern its trace due to the intervening potential antecedent governor, i.e., not, between the moved complex V and its trace. Hence, a violation of minimality is induced (Chomsky (1986b) and Rizzi (1990a)). The definitions of antecedent government and relativized minimality are reproduced as follows:

- (53) a. Antecedent Government (Rizzi (1990a:6))

- $\alpha$  antecedent governs  $\beta$  iff  
 (i)  $\alpha$  and  $\beta$  are coindexed  
 (ii)  $\alpha$  c-commands  $\beta$   
 (iii) no barrier intervenes  
 (iv) Relativized Minimality is respected.

b. Relativized Minimality (Rizzi (1990a:7))

- $\alpha$  a-governs  $\beta$  only if there is no  $\gamma$  such that  
 (i)  $\gamma$  is a typical potential a-governor for  $\beta$ ,  
 (ii)  $\gamma$  c-commands  $\beta$  and does not c-command  $\alpha$ .

Therefore, as a last resort, a language-particular rule like 'DO'-Support is invoked to support a stranded tense morpheme as in (52b). That is, as Chomsky (1992) and Mitchell (1993) note, 'DO'-Support is necessary to fulfill feature-checking. Put differently, it is inserted to allow the morphological realization and checking of some feature when an alternative means of checking that feature is not available.

The reason why we depend on a minimality-based account of the interaction between verb movement and negation is that the blocking effects induced by the presence of negation also handle cases involving wh-movement (antecedent government) and binding, as Benmamoun (1991) suggests. Let us consider Rizzi's (1990a) argument for the interaction between negation and antecedent government. Rizzi cites Ross's (1983) work on negation in which negation interferes with extraction of adverbial elements, but does not affect extraction of argument, as shown in (54) (Rizzi (1990a:15)):

- (54) a. Bill is here, which they (don't) know.  
 b. \*Bill is here, as they (don't) know.

In (54) movement of the argumental element which is not affected by the presence of negation, whereas movement of the

adverbial element as is. The same difference occurs in the following sentences:

- (55) a. Why does Mary think that John was fired?  
 b. Why doesn't Mary think that John was fired?

In (55a) the wh-phrase can be construed as modifying either the matrix clause or the embedded clause, while in (55b) the wh-phrase is interpreted as modifying only the matrix clause. This prediction is borne out even in measure phrases (Rizzi (1990a:16)):

- (56) a. How strongly do you believe that inflation will rebound?  
 b. How strongly do you not believe that inflation will rebound?

(56a) is ambiguous in the sense that the wh-phrase can be construed as a matrix clause or an embedded clause. On the other hand, (56b) is unambiguous: only the matrix interpretation of the wh-phrase is possible.

The contrast between (54a), (55a) and (56a) on the one hand and (54b), (55b) and (56b) on the other shows that negation forms an island for adjunct wh-movement.<sup>23</sup> Based on this, Rizzi argues that negation qualifies as a typical, potential, antecedent governor, so that the inner-island effect is reduced to the ECP via relativized minimality. That is, if an adjunct wh-phrase such as why or how is extracted

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<sup>23</sup> Readers are referred to Cinque (1990) and Rizzi (1990a) for a detailed discussion of this issue.

from the domain of negation, it cannot antecedent govern its trace due to the intervening A'-Spec of NegP, just as the ungrammaticality of sentences in (57) attributes to the intervening Spec of CP, which is an A'-position.<sup>24</sup>

- (57) a. \*Why<sub>j</sub> do [<sub>TP</sub>you wonder [<sub>CP</sub>who<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> was fired t<sub>j</sub>]]]?  
 b. \*How<sub>j</sub> do [<sub>TP</sub>you wonder [<sub>CP</sub>who<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> solved the problem t<sub>j</sub>]]]?

Furthermore, Benmamoun (1991) cites Aoun and Li's (1989a) discussion of the interaction between negation and binding of bound pronouns, as in (58):

- (58) a. \*Meigeren<sub>i</sub> dou shuo ta<sub>i</sub> de le jiang  
 everyone all say he get Asp prize  
 'Everyone said that he got the prize.'  
 b. Meigeren<sub>i</sub> dou mei shuo ta<sub>i</sub> de le jiang  
 everyone all not say he get Asp prize  
 'Everyone did not say that he got the prize.'  
 (Benmamoun (1991:20))

According to Benmamoun, (58a) is ungrammatical since the pronoun ta 'he' is bound by the quantifier, violating a disjointedness constraint on bound pronouns which stipulates that they be free in the domain of the first potential antecedent. (58b), however, is grammatical because the pronoun is free in the domain of the first potential antecedent, i.e., negation mei, and therefore can be bound by the quantifier. Based on this difference, Benmamoun argues

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<sup>24</sup> The sentences in (57) also violate Subjacency in that wh-phrases cross more than one bounding node, viz., two TPs.

that negation plays a crucial role in determining a locality constraint for the binding of bound pronouns. Therefore, we can conclude that negation induces a minimality effect in cases involving negative and *wh*-phrases.

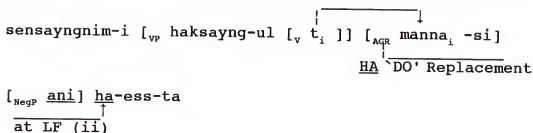
Keeping this in mind, let us go back to the Korean sentence in (40a/50a), which is repeated in (59):

(59) *sensayngnim-i haksayng-ul ani manna-si-ess-ta*  
 teacher-Nom student-Acc not meet-Hon-Past-Dec

'A teacher did not meet a student.'

In Korean, LF [<sub>AGR</sub> V-AGR] raising to T over Neg might be problematic with respect to minimality; that is, the trace of [<sub>AGR</sub> V-AGR] cannot be properly governed due to the minimality condition. To account for this potential problem, I adopt Chomsky's (1989, 1991) proposal that an element cannot be deleted at LF if it plays a role at that level, while an element can be deleted if it plays no role at LF. This is in accordance with the principle of Full Interpretation (Chomsky (1986a:98)). In other words, every element must be appropriately licensed at PF and LF. The trace of a verb, for example, cannot be deleted at LF since it has 'substantive content' and thus plays a role at that level. The trace of AGR, however, plays no role at LF and therefore it can be deleted at that level. Employing Chomsky's suggestion, let us consider the enriched S-structure representation of (60):

(60) V-to-AGR Raising at S-structure (i)



In (60), following the derivation step by step, the verb moves to AGR at S-structure, forming a complex AGR, viz.,  $[_{AGR} \text{ manna}_i \text{ -si}]$ . At LF the dummy verb ha is replaced by the complex AGR, i.e.,  $[_{AGR} \text{ V-AGR}]$ , crossing over Neg (Park (1991)). What I claim is that the trace of complex AGR without substantive content will be deleted in the sense of Chomsky (1989, 1991). The deletion of this trace avoids a potential violation of the minimality condition. Furthermore, in regard to the nature of deletion, Chomsky (1989:52) suggests that "deletion leaves a position but no features, in particular, no categorial features." Given the minimality condition to be a condition based on chains rather than on derivation, which would be in line with Chomsky (1986b), a violation of minimality is not induced since the trace  $t_i$  left by V-movement is properly governed.

So far, we have established that two types of negation in Korean are attributed to the AGRP separated from TP. That is, the postulation of AGRP and NegP provides a plausible analysis to the two types of negation. Therefore, two types of

negation in Korean provide crucial evidence for the split INFL hypothesis.

A minimality-based account of the interaction between verb movement and negation can be evidenced by negative sentences in Chinese as well, as shown in (61) (Zhou (1988:202)):

(61) a. \*Zhangmin da le mei Lihua  
Zhangmin beat PEFT not Lihua

b. Zhangmin mei da Lihua  
Zhangmin not beat Lihua

`Zhangmin didn't beat Lihua.'

As pointed out by Zhou, once we analyze mei 'not' as a head of NegP, verb movement across the Neg in (61a) is not allowed, since the verb cannot antecedent govern its trace due to intervening negation, causing a violation of the minimality condition.

Next, let us move to Standard Arabic (SA) which might suggest that a minimality-based account provides a plausible and tenable account for cases involving negation, cross-linguistically.<sup>25</sup> Benmamoun (1989, 1991) notes that in affirmative sentences in SA, both tense and agreement inflections are carried by the verb, as the following sentence suggests (Benmamoun (1989:6)):

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<sup>25</sup> I am grateful to Mohammad Mohammad (p.c.) for pointing this out to me.

- (62) T-Tullaab-u            δahab-uu  
       the-students-Nom go-3MP-Past

`The students left.'

In a sentence like (62) the suffix -uu carries both number and gender agreement. On the other hand, in negative sentences the negative morphemes carry only tense and the verb carries only agreement, as illustrated in (63) (Benmamoun (1989:8)):

- (63) a. T-Tullaab-u            lam            ya-δhab-uu  
          the-students-Nom not Past    Imp-go-Agr  
          `The students did not go.'
- b. T-Tullaab-u            lan            ya-δhab-uu  
          the-students-Nom not Fut    3Imp-go-Agr  
          `The students will not go.'
- c. T-Tullaab-u            laa            ya-drus-uu  
          the-students-Nom not        3Imp-study-Agr  
          `The students do not study.'

In (63a-b), tense is carried by the negative morpheme and agreement by the verb when the negative morpheme lam/lan is present.<sup>26</sup>

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<sup>26</sup> Incidentally, Benmamoun (1989:11) notes that in Evenki the negative carries both tense and agreement inflections (Payne (1984)):

- (i) Bi dukuwun-ma duku-ca-w  
       I letter-Acc write-Past-1SG  
       `I wrote a letter.'
- (ii) Bi dukuwun-ma e-ce-w            duku-ra  
       I letter-Acc Neg-Past-1SG write-PART  
       `I did not write a letter.'



To account for the facts in (63a-b), Benmamoun (1989, 1991), adopting the split IP structure, suggests that verb movement is subject to minimality. In other words, if the verb moves to T across negation, the latter prevents the verb from antecedent-governing the trace of the verb.

This line of reasoning can be extended to French as well. Kayne (1989) notes that clitic climbing in French is possible in certain causative constructions, as seen in (64):

- (64) Jean la fait manger par/à Paul.  
       `John it-makes eat by/to Paul.'

Clitic climbing in (64) is, however, blocked when the negative marker ne 'not' is present, as the following contrast indicates:

- (65) a. ??Jean/Cela a fait ne pas manger sa soupe à l'enfant.  
       `John/that has made NEG not eat his soup to the child.'  
       b. \*Jean/Cela l'a fait ne pas manger à l'enfant.

To account for (65), Kayne proposes that ne is a head in the sense of X-bar theory and that ne in (65b) m-commands the infinitival VP. Therefore, ne cannot L-mark its complement VP. Hence, ne blocks the relation of antecedent government between the clitic and its trace, inducing a violation of the

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Further, Benmamoun notes that in affirmative sentences in Evenki tense and agreement inflections attach onto the verb, as in Arabic.

minimality condition.<sup>27</sup> In this regard, the fact that the presence of ne blocks clitic climbing provides crucial evidence for the split IP structure in French.

### 3.5. Coordination Facts

#### 3.5.1. Coordination and Functional Categories

As pointed out in J. Yoon (1989, 1992), Yoon and Yoon (1990), and J.-M. Yoon (1990), phrasal affixation is necessary to account for the coordination facts in Korean. In such cases, the information taken by the affixes on the final conjunct has distributive scope over the unmarked nonfinal conjuncts, as illustrated in (66):<sup>28</sup>

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<sup>27</sup> Kayne notes that if ne is a head which cannot L-mark its complement it would account for the fact that clitics cannot move past the negative marker ne, since this blocks antecedent government between clitics and their traces, as shown below:

- (i) Jean ne les voit pas
- (ii) \*Jean les ne voit pas  
      `John ne them-sees not'

Kayne further extends this analysis to clitic climbing in Italian.

- (iii) Gianni vuole non vederli.  
      `John wants not to see them.'
- (iv) \*Gianni li vuole non vedere.  
      `John them wants neg to see.' (Kayne (1989:243))

According to Kayne, in (iv) clitic climbing is not allowed due to the presence of the negation non, violating the minimality condition.

<sup>28</sup> Kuliko and -ko are allomorphs. Kuliko is attached to the ending marker -ta, while -ko is attached to the verbal stem.

- (66) a. [John-i pap-ul mek-ess-ta] kuliko [Mary-ka maykcwu-lul  
 -Nom meal-Acc eat-Past-Dec and -Nom beer-Acc

masi-ess-ta]  
 drink-Past-Dec

`John ate the meal and Mary drank beer.'

- b. [John-i pap-ul mek-ess (\*-ta)] -ko [Mary-ka maykcwu-lul  
 -Nom meal-Acc eat-Past(\*-Dec) and -Nom beer-Acc

masi-ess] -ta  
 drink-Past-Dec

`John ate the meal and Mary drank beer.'

- c. [John-i pap-ul mek] -ko [Mary-ka maykcwu-lul  
 -Nom meal-Acc eat and -Nom beer-Acc

masi]-ess-ta  
 drink-Past-Dec

`John ate the meal and Mary drank beer.'

In nonaffixal coordination such as (66a), verbs of both conjuncts are independently inflected for Tense and Mood. In affixal coordination such as (66b-c), mood marker -ta is not allowed. In (66b) even if mood marker -ta is absent, it c-commands the whole coordinated phrase TP, so that it ranges over the first clause as well as the second clause. Thus, it is a head of the maximal projection MP, which takes TP as its complement. (66b) further shows that TP is a maximal projection, since it can be coordinated with another maximal projection. (66c) shows that the inflectional (Tense) marker -ess is a syntactic head since the first clause is not marked with Tense, but its tense is interpreted as being the same as that of the second clause. This indicates that the tense

marker -ess of the second clause distributes over both the first clause and the second clause it is affixed to.

Based on this peculiar behavior of coordination facts, J. Yoon (1992) and J.-M. Yoon (1990) argue that TP and VP are independent maximal projections. Under the assumption that only constituents can be coordinated<sup>29</sup>, it is argued that (66b) instantiates coordinated TPs and (66c) coordinated VPs. Together with the assumption that subjects are base-generated VP-internally that has been made throughout this study, the fact that only constituents can be coordinated accounts for word order and the obligatory distributive scope of final conjunct affixes. Therefore, the sentence in (66b) is represented as follows<sup>30</sup>:

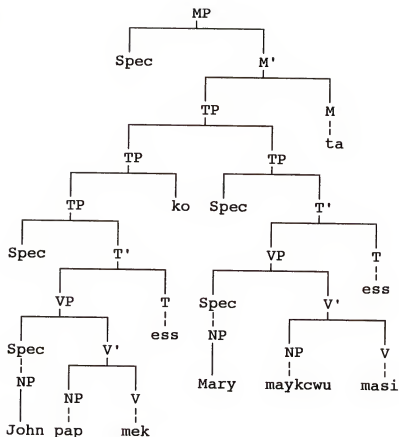
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<sup>29</sup> Only constituents can be conjoined, while non-constituent sequences cannot be conjoined by the following examples:

- (i) John wrote a letter and a card. (NP and NP)
- (ii) ?\*John wrote a letter and to Mary. (NP and PP)

<sup>30</sup> In (67), -ko 'and' is an allomorph of kuliko 'and'. In Korean, however, -ko is generally used as a complementizer. Incidentally, Gary Miller (p.c.) has noted to me that in Latin que is a conjunctive morpheme 'and', while que-i/quo-d is a complementizer 'which'/'that'.

(67)



### 3.5.2. Interaction between Negation and Coordination

The interaction between negation and coordination facts provides additional evidence for the split IP hypothesis. Observe the following sentences:

- (68) a. [John-i pap-ul mek]-ko [Mary-ka maykcwu-lul masi]  
 -Nom meal-Acc eat and -Nom beer-Acc drink

-ci ani-ha-ess-ta  
 -nominal not-do-past-Dec

'John did not eat the meal and Mary did not drink beer.'

'It is not the case that John ate the meal and Mary drank beer.'

- b. [John-i pap-ul mek-ess] -ko [Mary-ka maykcwu-lul masi]  
 -Nom meal-Acc eat-Past and -Nom beer-Acc drink

-ci ani-ha-ess-ta  
 -nominal not-do-past-Dec

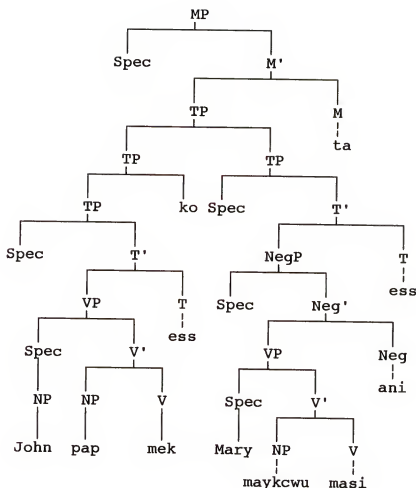
`John ate the meal and Mary did not drink beer.'

`\* It is not the case that John ate the meal and Mary drank beer.'

In (68a) the negative morpheme ani can have distributive scope over the nonfinal conjunct, while it cannot do so when the verb of the nonfinal conjunct is inflected for Tense. The examples in (68) are represented in (69a) and (69b), respectively:



b.



As J. Yoon (1992) and J.-M. Yoon (1990) note, the negative morpheme in (69a) c-commands the coordinated VPs so that the negation takes distributive scope over the first clause as well as the second clause. On the other hand, the negative morpheme in (69b) cannot take scope over the first clause, since the verb stem in the first clause is affixed with a tense morpheme, i.e., TP is higher than NegP; hence, Neg cannot c-command the first clause. Based on this fact, they conclude that Neg is an independent head between TP and VP.



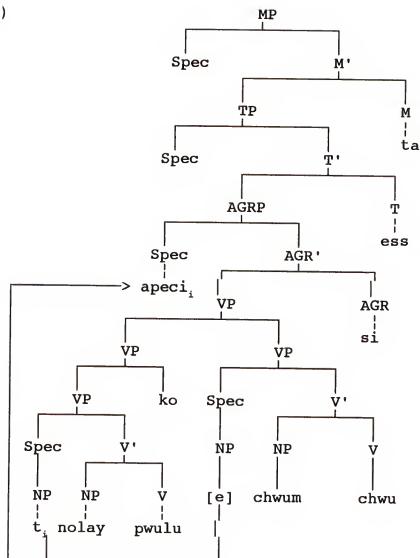
### 3.5.3. AGRP as a Functional Category in Coordination

Next, let us consider cases involving the Korean honorific marker -si to provide evidence showing AGRP to be an independent maximal projection of functional categories.

- (70) a. [apeci-kkeyse nolay-lul pwulu-si]-ko [chwum-ul chwu  
 father-Nom+Hon song-Acc sing-Hon and dance-Acc dance  
 -si] -ess-ta  
 -Hon -Past-Dec  
 'Father sang a song and danced.'
- b. [apeci-kkeyse nolay-lul pwulu]-ko [chwum-ul chwu]  
 father-Nom+Hon song-Acc sing and dance-Acc dance  
 -si-ess-ta  
 -Hon-Past-Dec  
 'Father sang a song and danced.'

The difference between (70a) and (70b) is that in the former the first conjunct has AGR, whereas in the latter it does not. The structure of (70b) is (71):

(71)



As shown in (71), the honorific suffix *c*-commands the coordinated VPs. Therefore, the scope of the honorific marker extends to the first as well as to the second clause. Let us now compare (70b) and the following sentence:

- (72) \*apeci-kkeyse nolay-lul pwulu-n-ta  
 father-Nom+Hon song-Acc sing-Pres-Dec  
 'Father is singing.'

Recall that the honorific subject marker -kkeyse triggers the attachment of the honorific suffix to the verbal stem, which would result in the ungrammaticality of (72). The grammaticality of (71b), however, shows that there is agreement between subject and verb with respect to the honorific form. Therefore, the contrast between (70b) and (72) can be accounted for by assuming that the honorific suffix in the second conjunct in (70b) distributes over the first conjunct. Notice that the subject NP apeci 'father' moves to the Spec of AGRP to receive a nominative Case via Spec-head agreement with -si in the head of AGRP. Hence, the sentences in (70) lead us to conclude that AGR is an independent syntactic head projecting its own structure which takes VP as complement in Korean.

Further evidence that AGRP is an independent functional category in Korean is provided by J. Yoon (1989:124), as illustrated in (73)<sup>31</sup>:

- (73) a. [apeci-kkeyse chayk-ul ilk-usi]-myense cenhwa-lul  
 father-Nom+Hon book-Acc read-Hon Conj phone-Acc  
 pat-usi-n-ta  
 receive-Hon-Pres-Dec  
 'Father is answering the phone while reading a book.'

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<sup>31</sup> Myense in (73) is a temporal conjunctive particle.

- b. [apeci-kkeyse chayk-ul ilku]-myense cenhwa-lul  
 father-Nom+Hon book-Acc read-Conj phone-Acc  
 pat-usi-n-ta  
 receive-Hon-Pres-Dec

'Father is answering the phone while reading a book.'

As pointed out by J. Yoon (1989), in both readings of (73), the verbs of both conjuncts are interpreted as honorific, even though in (73b) the first verb lacks the honorific suffix. Based on this fact, he suggests that the honorific suffix combines in the syntax with a VP not a V. If this line of reasoning is correct, this is an argument for the claim that AGRP is an independent functional category in Korean.

#### 3.5.4. Coordination and the VP-Internal Subject Hypothesis

As many linguists like Burton and Grimshaw (1992), Goodall (1987), and McNally (1992) have noted, sentences such as those in (74) which involve both an active and a passive verb pose a serious problem given that the subject NP of the passive verb moves to the Spec of TP. Observe the following sentences:

- (74) a. sensayngnim-kkeyse coycis-ko yongse-pat-usi-ess-ta  
 teacher-Nom+Hon sin and forgive-Pass-Hon-Past-Dec  
 'A teacher sinned and was forgiven.'

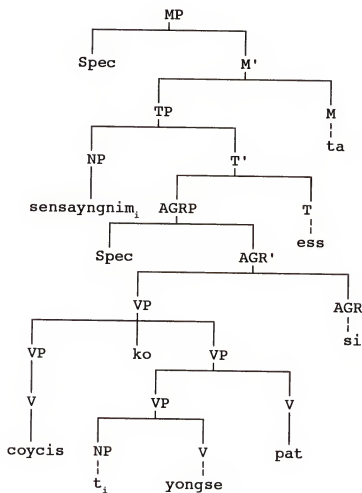
- b. koyangi-ka tallie-ka-ess-ko ku kyelkwa kay-eyuyhay  
 cat-Nom run-go-Past-and the result dog-by

mek-hi-ess-ta  
 eat-Pass-Past-Dec

'The cat ran away and as a result was eaten by the dog.'

It has been assumed that the object of the passive verb is base-generated VP-internally, moves to the Spec of the TP, and finally merges with the subject of the active verb, as shown below:

(75)



McNally (1992) points out several problems with the structure in (75). First, if we assume both VP-coordination and the VP-external subject hypothesis, the Spec of TP will be a  $\theta$ - and a non- $\theta$ -position simultaneously. Second, the subject NP in the Spec of TP binds a trace in one half of the coordination but not in the other, a violation of the Coordinate Structure Constraint (CSC) (Ross (1967)). A further problem raised in Burton and Grimshaw (1992) is that the movement of the subject NP in the passive verb is precisely the kind of movement that is ruled out by the across-the-board (ATB) principle (Williams (1977)).<sup>32</sup>

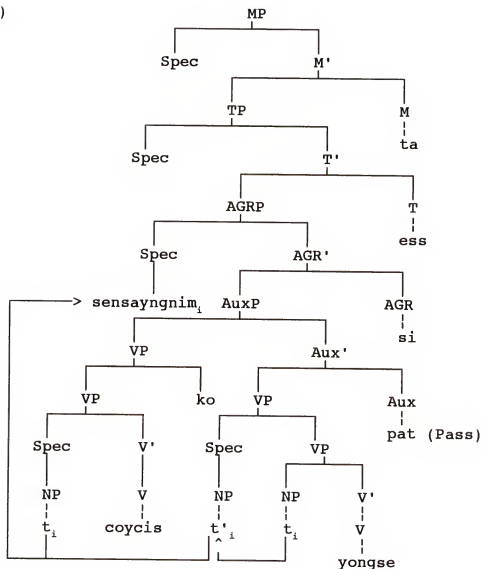
Adopting the VP-internal subject hypothesis and the Functional Phrase (FP) hypothesis (Miller (1993)), however, I assume that the sentence in (74a) is represented as follows:

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<sup>32</sup> The across-the-board principle is stated as follows:

"If a rule applies into a coordinate structure, then it must affect all conjuncts of that structure."  
(Williams (1977:419))

(76)



Notice that in (76), passive, as a verbal operator, is a head of a functional phrase, i.e., AuxP. In (76) the subject NP sensayngnim 'teacher' originates in two positions within the conjoined VP, i.e., in the Spec of the first VP and in object position of the second VP. The subject NP will bind a trace in the Spec of the first VP and an intermediate trace in the second VP. Next, the intermediate trace in the Spec of VP

binds its original trace, avoiding a CSC violation. The movement of the subject NP to the Spec of AGRP is forced to receive nominative Case through Spec-Head agreement with -si. Therefore, the properties of extractions from coordinate structures in Korean provide supporting evidence for the VP-internal subject hypothesis.

### 3.6. Conclusion

This chapter has addressed several issues related to functional categories and clausal structures in Korean. In section 3.2, I have provided several pieces of evidence for positing AGR as a syntactic category in Korean. Further, it was suggested that the honorific marker -si and the plural marker -tul are realizations of [+AGR] in Korean. Meanwhile, based on different morphological realizations of AGR across languages, it was claimed that Korean is a [+HON] prominent language. In section 3.3, evidence is provided for the claim that C projects its own maximal projection, i.e., C is an independent syntactic head in Korean. Section 3.4 has provided some rationale for verb movement and the existence of AGRP and NegP. Next, I proposed the split structure of IP to account for two types of negation in Korean. This proposal was examined by exploring the syntactic interaction between verb movement and negation in terms of the minimality condition. It was shown that verb movement plays a crucial role in determining the verbal form of the amalgamated



complex. Finally, I have demonstrated that the split structure of IP holds cross-linguistically. In section 5, I argued, based on coordination facts, that AGRP and NegP are independent functional categories in Korean. Finally, I suggested that the VP-internal subject hypothesis provides a more tenable and more subsuming analysis of cases involving coordinate structures in Korean.

## CHAPTER 4 NPI LICENSING AT LF AND CHECKING THEORY

### 4.1. Introduction

This chapter pursues the distributional difference of Negative Polarity Items (henceforth; NPIs) between English and Korean. In English, there is an asymmetry in licensing subject NPIs and object NPIs. Further, long-distance licensing of NPIs is possible. In Korean, however, there is no such asymmetry and NPIs obey strict locality constraints. The contrast between English and Korean NPIs is reduced to a more general condition on feature checking theory at LF (Chomsky (1992)), with independently motivated principles. Specifically, I propose that NPIs are licensed through Spec-Head agreement at LF.

This chapter is organized as follows: Section 4.2 shows that the alleged c-command requirement cannot directly extend to Korean NPIs or even to English NPIs. In section 4.3, I propose an alternative analysis of NPIs that involve movement at LF and show how the full range of data follows naturally from the new proposed analysis. Section 4.4 argues that the distributional differences between the scrambled NPIs and the nonscrambled NPIs in Korean can be accounted for in terms of the proposed analysis, assuming that scrambling can be freely

reconstructed at LF (Saito (1989, 1992)). Section 4.5 provides crucial evidence that long-distance licensing of NPIs obeys some constraints such as the Complex NP constraint, the Specificity condition, and the Wh-island constraint, which might suggest a movement analysis of NPIs based on the checking theory. Section 4.6 contains concluding remarks.

## 4.2. C-Command at S-Structure

### 4.2.1. Subject and Object Asymmetry

Since the advent of Klima (1964), it has been generally assumed that NPIs<sup>1</sup> are constrained under well-defined conditions, even if the constraints are controversial. It is well-known that English shows a subject and object asymmetry with respect to NPI licensing, i.e., negation licenses object NPIs, while it does not license subject NPIs (Klima (1964), Ladusaw (1980), Laka (1990, 1991), and Mahajan (1990a), and Progovac (1988), among others), as illustrated in (1):

- (1) a. \*Anyone did not meet John.  
       b. John did not meet anyone.

This asymmetry leads us to assume the following locality requirement for licensing NPIs:

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<sup>1</sup> NPIs are lexical items that cannot freely appear in any context, but are restricted to the surface in a set of specific environments, namely, negation.

## (2) NPI licensing condition

NPIs must be licensed by its c-commanding licenser  
negation at S-Structure.

Given the split IP structure discussed in the previous chapters (Chomsky (1989, 1991, and 1992), Pollock (1989)), the requirement in (2) accounts for the grammatical contrast in (1). In (1a) the negation not cannot c-command the subject NPI in the Spec of TP at S-structure, so that (1a) is ungrammatical, while in (1b) it does c-command the object NPI, hence (1b) is grammatical.

Another piece of evidence suggesting that S-structure is the relevant level of licensing NPIs in English comes from the following contrast (Laka (1990:47)):

- (3) a. Who doesn't anybody like?  
b. Who does anybody not like?

Laka (1990) notes that in (3a) the question means 'who is the person such that nobody likes that person,' while this interpretation is not obtained in (3b). Notice that the only difference between the two examples is the position of negation. As Laka argues, if negation cliticizes onto INFL and moves together to Comp at Phonetic Form (PF), we cannot capture the difference in interpretation between (3a) and (3b), since PF does not feed LF. Further, suppose that the NPI in (3a) is licensed by the interrogation and that the negative interpretation is brought about at LF, after the negative operator not raises by Quantifier Raising (QR) (May

(1977, 1985)). Then, as Laka points out, we would not expect any difference in interpretation, since negation would raise at LF in (3b) as well. On the other hand, the different configuration of the scope of the negative operator is due to the fact that the negative licensing is satisfied at S-structure, since negation, which is cliticized onto Comp, c-commands the NPI anybody at that level.

Furthermore, NPis cannot be licensed at D-structure, since subjects of passive constructions cannot be licensed by an element that c-commands them at D-structure, as in (4):

- (4) a. John does not hate anybody.  
 b. \*Anybody<sub>i</sub> is not hated t<sub>i</sub> by John.

If the relevant level is D-structure, then the sentence in (4b) is wrongly predicted to be grammatical, since at that level the NPI is c-commanded by negation. Nor can it be argued that the relevant level is LF, because at that level the NPI is c-commanded by negation if the NPI moves back to its original position without leaving a trace at LF (Ahn (1991), Laka (1990), and R. Lee (1992)). That is, if reconstruction were available for NPI licensing, (4b) should be grammatical. This, however, is not the case. Other counterexamples to the theory are the following ungrammatical sentences (Ahn (1991), R. Lee (1992)):

- (5) a. \*[Anybody in this room]<sub>i</sub> did not seem [t<sub>i</sub> to be intelligent].

- b. \*[Anybody in this room]<sub>i</sub> was not likely [<sub>t<sub>i</sub></sub> to be intelligent].
- c. \*[Anybody in this room]<sub>i</sub> did not arrive <sub>t<sub>i</sub></sub> on time.
- d. \*[Anybody in this room]<sub>i</sub> did not worry <sub>t<sub>i</sub></sub> John.

The subject NP in (5a-b), for example, moves to the Spec of TP since the infinitive does not assign Case. Likewise, the subject NP in (5c) moves to the Spec of TP, since an unaccusative verb such as arrive cannot assign Case to its sister, as indicated by Burzio (1986).<sup>2</sup> Finally, in (5d) two arguments, experiencer and theme, are base-generated VP-internally and the theme NP moves to the Spec of TP, since psych-verbs such as worry, being unaccusative, cannot assign structural Case (Belletti and Rizzi (1988)).<sup>3</sup> Given these phenomena, the examples in (5) are assumed to involve NP-movement.

The ungrammaticality of (5) provides crucial evidence that the c-command requirement at S-structure is sufficient to license NPIs in English. If the relevant level is D-structure, then the sentences in (5) are all grammatical in that negation does c-command the NPI at that level. Furthermore, the ungrammaticality of (5) cannot be accounted for on the basis of the LF configuration, because the NPI is

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<sup>2</sup> Burzio's Generalization states that,

"All and only the verbs that can assign  $\theta$ -role to the subject can assign accusative Case to an object." (Burzio (1986:178))

<sup>3</sup> See chapter 5 for a detailed discussion of this matter.

licensed by negation at that level, after some kind of reconstruction has taken place.

Some problematic cases to the S-structure c-commanding licensing of NPIs come from the following grammatical sentences, although NPIs are not c-commanded by negation at S-structure:

- (6) a. That anyone has finished yet isn't likely.  
   is unlikely.  
   is doubtful.
- b. For John to have found any unicorns is impossible.  
   isn't possible.
- c. For anyone to win all six races would be unlikely.  
   (Ladusaw (1980:112), Laka (1990:191))

The sentences in (6) show that when the negation is in a higher clause, the scope requirement is sufficient. To account for this phenomenon, Ladusaw (1980:112) suggests the following principle for the distribution of NPIs:

- (7) An NPI must appear in the scope of a trigger. If its trigger is in the same clause as the NPI, the trigger must precede the NPI.

As Laka (1990) notes, however, this principle is not well-motivated because under Ladusaw's analysis, NPI licensing is explained in terms of the semantics of the clauses in which they occur, but not in terms of the syntax.<sup>4</sup>

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<sup>4</sup> As we will discuss later, Ladusaw's theory cannot be extended to cases in which NPIs are licensed in certain nonnegative constructions, such as the verbs refuse and deny.

#### 4.2.2. Laka (1990): The Head of CP as a Licensor

Laka (1990), on the other hand, suggests that what licenses the NPI in the embedded clause is not not in the matrix clause, but rather, the complementizer that heads the embedded clause. If this is the case, the S-structure c-command requirement of NPI licensing can be still maintained. Based on the argument discussed thus far, we might conclude that NPIs are licensed by negation at S-structure. This is not the case, however, in corresponding sentences of head-final languages such as Korean, Japanese, Hindi (Mahajan (1990a)), Basque (Laka (1990, 1991)), and Serbo-Croatian (Progovac (1991))<sup>5</sup>:

- (8) a. Korean  
 amwuto John-ul manna-ci      ani-ha-ess-ta  
 anyone      -Acc meet-Nominal not-do-Past-Dec  
 `\*Anyone did not meet John.'
- b. Japanese<sup>6</sup>  
 daremo John-ni awa-na-katta  
 anyone      -Acc meet-not-Past  
 `\*Anyone did not meet John.'

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<sup>5</sup> All head-final languages behave like English in that they allow object NPIs, as exemplified below:

John-i amwuto manna-ci      ani-ha-ess-ta  
 -Nom anyone meet-Nominal not-do-Past-Dec  
 `John did not meet anyone.'

<sup>6</sup> This sentence is from Ann Wehmeyer (p.c.).



- c. Hindi (Mahajan (1990a:334))  
 kisii-ne bhii jOn-ko nahiiN dekhaa  
 anyone emph.(Sub) John(DO) not saw  
 'No one saw John.'
- d. Basque (Laka (1990:36))  
 Ez dio inork Iboni etxea eman  
 no has anybody Ibon-to house-the given  
 'Nobody has given the house to Ibon.'  
 (Lit: anybody hasn't given the house to Ibon.)
- e. Serbo-Croatian (Progovac (1991:569))  
 Ni-ko/\*I-ko ne voli Milan-a  
 no-who/any-who not loves Milan-Acc  
 'No one loves Milan.'

To account for the contrast between head-initial languages like English on the one hand and head-final languages like Hindi on the other, Mahajan (1990a) suggests that the following condition holds universally:

(9) NPI Licensing Condition (Mahajan (1990a:347))

A negative polarity item X must be c-commanded by a negative polarity licensor Y and there must not be any intervening barrier between X and Y.

Mahajan suggests that the NPI licensing condition in (9) should be parameterized; that is, in Hindi, the NPI licensing condition applies only at LF, while in English the NPI licensing condition applies at S-structure as well as at LF (Linebarger (1987)).

On the other hand, to deal with the difference between English and Basque with respect to NPIs, Laka (1990, 1991), adopting the split IP structure, argues that in Basque NegP

takes TP as a complement. NegP therefore dominates both TP and AGRP in Basque, while in English TP takes NegP as a complement. The proposed negative structures for sentences in (10) are the following (11):

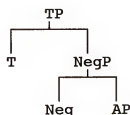
(10) a. \*<sub>[TP]</sub> anybody has <sub>[NegP]</sub> not arrived]]

b. <sub>[NegP]</sub> ez+da<sub>i</sub> <sub>[TP]</sub> inor dtorri t<sub>i</sub>]]  
not+has anybody arrived

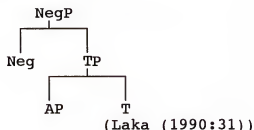
'Nobody has arrived.'

(Lit: 'hasn't anybody arrived.') (Laka (1991:18))

(11) a. English



b. Basque



If this is the case, the difference in the two NPI licensings is accounted for under the assumption that NPIs are still licensed under c-command at S-structure. That is, in the English sentence, negation cannot license a subject NPI since the former does not c-command the latter. On the other hand, in the Basque case, negation licenses a subject NPI since the former does c-command the latter at S-structure. Therefore, Laka argues that the S-structure c-commanding requirement of NPI licensing still holds.

It has been observed in Klima (1964), Ladusaw (1980), Laka (1990), and Progovac (1992) that apart from being

licensed by negation, NPIs in English can be licensed across clause boundaries in certain nonnegative constructions. Consider the use of adversative predicates such as doubt and deny<sup>7</sup>, as shown below:

- (12) a. We doubt [that anyone will ever say anything].  
 b. Richard denied [that anyone had ever offered him any money].  
 c. It is inconceivable [that any of the papers will ever be found].  
 d. It is unlikely [that the Cubs will ever win any championships]. (Baker (1989:414))
- (13) a. ?\*We doubt anything.  
 b. \*Richard denied any money.  
 c. \*It is inconceivable any of the papers.  
 d. \*It is unlikely to any championships.

The examples in (12) are not predicted under Ladusaw's (1980) analysis that NPIs are licensed if and only if they are in the scope of negation. One might suggest that in (12) the main verbs like doubt and deny license the NPIs in the embedded clauses. This contention, however, is not stable since the NPIs in the object position are not licensed as in (13). To handle this asymmetry between clausal and nonclausal arguments of 'inherently negative verbs', Laka (1990) argues that the

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<sup>7</sup> The following lists of predicates belong to this class. afraid, regret, surprise, annoy, defy, refuse, forget, hesitate, avoid, and absurd.

- (i) It is absurd to think that anyone would ever do that.  
       \*realistic
- (ii) He is annoyed that anyone would be all that anxious to  
       \*pleased leave.

Readers are referred to Ladusaw (1980:132-133) for a paradigm of this phenomenon.

presence versus absence of a negative complementizer plays a crucial role in licensing NPIs. That is, the NPIs in sentences like (12) are licensed by that as a negative complementizer, which is selected by inherently negative verbs such as doubt and deny. On the other hand, NPIs in nonclausal arguments are not licensed since the negative complementizer is absent, as in (13).<sup>8</sup>

Furthermore, in English, NPIs in yes-no questions as in (14a), in conditional clauses as in (14b), and in comparative constructions as in (14c) are licensed.

- (14) a. Did anyone ever meet George?  
           We are trying to determine [whether anyone ever met George].
- b. [If any of you ever see any flying saucers], you  
           should report them to Freddy.  
           [Whenever anyone sees any flying saucers], Freddy gets  
           very excited.
- c. Jones walked farther [than any members of the club had  
           ever walked before].  
           Rachel made more saves [than any goalkeeper had ever  
           made before].

(Baker (1989:415))

According to Laka (1990), the NPIs in (14) are licensed by a negative complementizer. As Progovac (1992) notes, the negative complementizers are licensed whenever the truth conditions of the matrix sentence are unfixed.

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<sup>8</sup> Progovac (1988) independently argues that NPIs in nonnegative sentences such as (12) are licensed through a negative polarity operator (Op) in the Spec of CP.

Laka's prediction is further supported, as the following example shows:

- (15) [<sub>CP</sub> that<sub>N</sub> [<sub>TP</sub> anybody left the room before dinner]]<sub>i</sub> was denied t<sub>i</sub> by the witnesses. (Laka (1990:189))

In (15) although the verb does not c-command the NPI, the NPI is licensed by the negative complementizer that since that does c-command the NPI.

Laka provides crucial evidence supporting the presence of the negative complementizer which licenses the NPI. She points out that in Basque there are three types of complementizers. The first is a declarative complementizer ela, whose distribution is like that of declarative that in English, as in (16a). The second is a negative complementizer enik, which is selected by the matrix negative verb, as in (16b)<sup>9</sup>:

- (16) a. [Galapagoak muskerrez beterik daudela] diote  
Galapagos lizards-of full are-that say-they  
‘They say that the Galapagos are full of lizards.’  
b. Amaiak [inork gorrotoa dionik] ukatu du  
amaia anyone hatred has-that denied has  
‘Amaia denied that anybody hated her.’

As indicated in (16b), the NPI such as inork is licensed by the negative complementizer nik, just like in English.

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<sup>9</sup> According to Laka (1990), the third type is a complementizer en, which occurs in embedded clauses where operator movement takes place.

One of the consequences of her analysis is that it accounts for the fact that the relation between negation and NPIs in English is unbounded. This is demonstrated by the following examples:

- (17) a. Karen doesn't think that anyone will find the ring.  
 b. Nobody believes that anything can be done.  
 (Baker(1989:414))

In (17) the NPIs anyone and anything are licensed by a negative complementizer that, which is selected by the verb when it is negated.

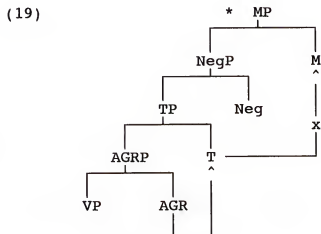
#### 4.2.3. Problems

As we have discussed in section 4.2.2, to account for parametric difference between English and Basque with respect to NPI licensing, Laka (1990, 1991) argues that in Basque NegP dominates TP, while in English TP dominates NegP. Notice that in Korean there is no subject and object asymmetry in licensing NPIs, as was the case with Basque.

- (18) a. amwuto John-ul salangha-ci ani-ha-n-ta  
 anybody -Acc love-Nominal not-do-Pres-Dec  
 '\*Anybody does not love John.'  
 b. John-i amwuto salangha-ci ani-ha-n-ta  
 -Nom anybody love-Nominal not-do-Pres-Dec  
 'John does not love anybody.'

Laka's analysis, however, is untenable in Korean, since NegP in Korean should be positioned between TP and AGRP. If we

assume that NegP dominates TP, the structure is represented as follows:



Recall that V moves to AGR, forming [<sub>AGR</sub> V-AGR] and this complex element is further moved to T, forming [<sub>T</sub> V [<sub>AGR</sub> V-AGR]], and finally the complex T moves to M crossing over Neg. This, however, induces a violation of the ECP, because the trace of T cannot be deleted (Chomsky (1989, 1991)). Hence, NegP in Korean is positioned higher than AGRP and lower than TP in clausal projections.

The relation between negation and NPIs in English is unbounded in (17), which is repeated in (20):

- (20) a. Karen doesn't think that anyone will find the ring.  
 b. Nobody believes that anything can be done.

Laka argues that the negative complementizer that licenses the NPIs in the embedded clause. However, as has been observed in Choe (1988) and Kwon (1992b), negation can license neither a

subject NPI nor an object NPI in the embedded clause in Korean. The following examples confirm this observation.

- (21) a. ?\*John-i [Mary-ka amwuto salangha-n-ta-ko]  
           -Nom       -Nom   anybody love-Pres-Dec-Comp  
           sayngkakha-ci ani-ha-n-ta  
           think-Nominal not-do-Pres-Dec  
           `John does not think that Mary loves anybody.'
- b. ?\*John-i [amwuto Mary-lul salangha-n-ta-ko]  
           -Nom anybody    -Acc love-Pres-Dec-Comp  
           sayngkakha-ci ani-ha-n-ta  
           think-Nominal not-do-Pres-Dec  
           `John does not think that anybody loves Mary.'

The ungrammaticality of (21) suggests that Laka's conjecture cannot be extended to Korean cases, since under her analysis, the sentences in (21) should be grammatical. This, however, is not the case.

Furthermore, English NPIs in yes-no questions, conditional clauses, comparative constructions, and adversative predicates are generally licensed. In Korean, however, the NPIs in these constructions are not licensed, as the ungrammaticality of the following sentences shows:

- (22) a. \*amwuto John-ul salangha-ni?  
           anybody   -Acc love -Q  
           `Does anybody love John?'



- b. \*nehuy-tul cwungey amwuto pihayng cepsi-lul  
 you-PL of anybody flying saucer-Acc  
 bon-ta-myen, ...  
 see-Dec-if  
 'If any of you see flying saucers, ... '
- c. \*John-i cullep-uy amwuto-potato te melli kel-ess-ta.  
 -Nom club-of anybody than farther walk-Past-Dec  
 'John walked farther than any members of the club.'
- d. \*John-i amwuto sakwa-lul mek-ess-ta-ko uysimha-ess-ta  
 -Nom anybody apple-Acc eat-Past-Dec-C doubt-Past-Dec  
 'John doubted that anybody ate apples.'

The sentences in (22) are all ungrammatical, which indicates that the negative complementizer that does not license the NPI.

It has been noted that NPIs in English are not licensed by negation in a complex NP island, as shown in (23):

- (23) a. We weren't aware that anyone had ever done anything.  
 b. \*We weren't aware of the fact that anyone had ever  
 done anything. (Baker (1970:184))

The grammatical distinction observed above does not follow from the alleged c-command requirement at S-structure as the NPI licensing condition.

Finally, consider the following English sentences, which are taken from Linebarger (1987:352):

- (24) a. John didn't give a red cent to charity.  
 NOT (John gave a red cent to charity)

- b. \*John didn't give a red cent to every charity.  
 NOT  $\forall_x$  (John gave a red cent to x) where x = a charity  
 'It wasn't every charity that John gave a red cent to.'
- c. \*John didn't give a red cent to just any old charity.  
 NOT  $\forall_x$  (John gave a red cent to x) where x = a charity  
 'It wasn't just any old charity that John gave a red cent to.'

If we assume that the universal quantifiers such as every charity and any old charity adjoin to VP at LF as demonstrated by May (1977, 1985), the contrast between the grammatical sentence in (24a) and the ungrammatical sentences in (24b-c) can be accounted for, since there is a barrier, i.e., universal quantifiers, between the negation and the NPI a red cent at LF. Based on these phenomena, Linebarger suggests that NPIs are sensitive to the negation at LF. To account for the apparent counterexamples of Laka's analysis discussed thus far, in the next section, I suggest an alternative analysis under which NPIs are related to negation at LF.

### 4.3. An Alternative Analysis

#### 4.3.1. Locality Condition

In Korean, the NPI amwuto 'anyone' must accompany the negative morpheme ani 'not', as in (25)<sup>10</sup>:

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<sup>10</sup> There are three types of NPIs in Korean as follows:

amwuto : 'anybody', amwukesto : 'anything', pakkey : 'only'.

- (25) a. \*amwuto hakkyo-ey ka-ess-ta  
 anyone school-to go-Past-Dec  
 `\*Anybody went to school.'
- b. amwuto hakkyo-ey ka-ci ani-ha-ess-ta  
 anyone school-to go-Nominal not-do-Past-Dec  
 `\*Anybody did not go to school.'

As we have observed in the previous section, Korean, unlike English, does not exhibit subject and object asymmetry in licensing NPIs, as the following examples show:

- (26) a. amwuto Mary-lul salangha-ci ani-ha-ess-ta  
 anybody -Acc love-Nominal not-do-Past-Dec  
 `\*Anybody did not love Mary.'
- b. John-i amwuto salangha-ci ani-ha-ess-ta  
 -Nom anybody love-Nominal not-do-Past-Dec  
 `John did not love anybody.'
- c. John-pakkey Mary-lul salangha-ci ani-ha-ess-ta  
 only -Acc love-Nominal not-do-Past-Dec  
 `Only John loves Mary.'
- d. John-i Mary-pakkey salangha-ci ani-ha-ess-ta  
 -Nom only love-Nominal not-do-Past-Dec  
 `John loves only Mary.'

It has been observed in Choe (1988) that the NPI amwuto 'anyone' and ani 'not' must occur in the same clause. This is referred to as a clause-mate requirement, as in (27)<sup>11</sup>:

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<sup>11</sup> Kayne (1984) notes that the negative operator personne and the negative morpheme ne in French appear in the same clause, as we see the contrast between (i) and (ii):

- (i) J'ai exigé que personne ne soit arrêté.  
 'I have required that nobody Neg be arrested.'

- (27) a. John-i [Mary-ka amwuto salangha-ci ani-ha-ess-ta-ko]  
 -Nom -Nom anyone love-Nomi not-do-Past-Dec-C

sayngkakha-ess-ta  
 think -Past -Dec

'John thought that Mary did not love anyone.'

- b. ?\*John-i [Mary-ka amwuto salangha-ess-ta-ko]  
 -Nom -Nom anyone love-Past-Dec-Comp

sayngkakha-ci ani-ha-ess-ta  
 think-nominal not-do-Past-Dec

'John did not think that Mary loved anyone.'

- c. amwuto [John-i Mary-lul salangha-ess-ta-ko] sayngkakha  
 anyone -Nom -Acc love-Past-Dec-Comp think

-ci ani-ha-ess-ta  
 -nominal not-do-Past-Dec

'Anyone did not think that John loved Mary.'

- d. \*amwuto [John-i Mary-lul salangha-ci ani-ha-ess  
 anyone -Nom -Acc love-Nominal not-do-Past

-ta-ko] sayngkakha-ess-ta  
 -Dec-Comp think-Past-Dec

'Anyone thought that John did not love Mary.'

In (27a, c), amwuto and ani occur in the same clause and both sentences are grammatical; in (27a), amwuto and ani appear in the embedded clause, and in (27c) they appear in the matrix clause. Sentences (27b, d), however, are ruled out since amwuto and ani do not occur in the same clause. Given that

- 
- (ii) \*Je n'ai exigé que personne soit arrêté.

'I Neg have required that nobody be arrested.'

(Kayne (1984:24))

Kayne argues that personne moves to a position where it can associate with ne at LF to take scope.

NPIs are licensed under c-command at S-structure, cases like (27b) where the NPI occurs in the embedded clause and the negative morpheme ani occupies the matrix clause are wrongly predicted to be grammatical, because ani c-commands amwuto at S-structure. But, this is not the case in (27b) in Korean.

Choe (1988) further observes that the control sentences in (28) show the same pattern as the paradigm in (27) in that the clause-mate requirement is observed, regardless of whether the embedded clause is finite:

- (28) a. John-i [PRO amwuto manna-ci ani-ha-lyeko] kyelsimha  
           -Nom          anyone meet-Nomi not-do-Comp  decide  
           -ess-ta  
           -Past-Dec  
           `John decided [PRO not to meet anyone].'
- b. \*John-i [PRO amwuto manna-lyeko] kyelsimha-ci ani-ha  
           -Nom          anyone meet-Comp      decide-Nomi not-do  
           -ess-ta  
           -Past-Dec  
           `John did not decide [PRO to meet anyone].'
- c. amwuto [PRO John-ul manna-lyeko] kyelsimha-ci ani-ha  
           anyone          -Acc meet-Comp      decide-Nomi not-do  
           -ess-ta  
           -Past-Dec  
           `Anyone did not decide [PRO to meet John].'
- d. \*amwuto [PRO John-ul manna-ci ani-ha-lyeko] kyelsimha  
           anyone          -Acc meet-Nominal not-do-Comp  decide  
           -ess-ta  
           -Past-Dec  
           `Anyone decided [PRO not to meet John].'

Sentences in (28a, c) are grammatical, since amwuto and ani occur in the same clause. On the other hand, the examples in (28b, d) are ruled out since amwuto and ani occur in different clauses. As observed in (27b), (28b) is incorrectly allowed under the c-command licensing of NPI at S-structure, because ani does c-command amwuto at S-structure.

Finally, a quantifier-like NPI, pakkey 'only', and the negation ani should appear in the same clause.

- (29) a. John-i [Mary-ka chayk-pakkey sa-ci ani-ha-ess-ta-ko]  
           -Nom    -Nom book-only    buy-Nomi not-do-Past-Dec-C

malha-ess-ta  
 say-Past-Dec

'John said that Mary bought only a book.'

- b. \*John-i [Mary-ka chayk-pakkey sa-ess-ta-ko]  
           -Nom    -Nom book-only    buy-Past-Dec-Comp

malha-ci        ani-ha-ess-ta  
 say-Nominal    not-do-Past-Dec

'John said that Mary bought only a book.'

- c. John-pakkey [Mary-ka chayk-ul sa-ess-ta-ko]  
           only        -Nom book-Acc buy-Past-Dec-Comp

malha-ci        ani-ha-ess-ta  
 say-Nominal    not-do-Past-Dec

'Only John said that Mary bought a book.'

- d. \*John-pakkey [Mary-ka chayk-ul sa-ci        ani-ha  
           only        -Nom book-Acc buy-Nominal not-do

-ess-ta-ko]    malha-ess-ta  
 -Past-Dec-Comp say-Past-Dec

'Only John said that Mary bought a book.'

(29a, c) are grammatical; in (29a) the object NP in the embedded clause is modified by pakkey, and ani is in the embedded predicate. In (29c) pakkey modifies the matrix subject, and ani is in the matrix predicate. Both sentences observe the locality constraint, i.e., the clause-mate requirement. On the other hand, in (29b, d) pakkey and ani occur in different clauses, so that (29b, d) are ungrammatical.<sup>12</sup>

#### 4.3.2. NPI Licensing at LF

##### 4.3.2.1. NPI Movement at LF

In order to address peculiar properties of licensing NPIs in Korean, let us first take a look at the possibility of NPI movement at LF. It has been assumed that the so-called weak crossover (WCO) effects provide a good motivation for LF movement (May (1977, 1985)).

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<sup>12</sup> Takahashi (1990) observes that this peculiar property of the NPI sika 'only' holds in Japanese as well.

- (i) John-sika [Mary-ga ringo-o tabe-ta to] iw-ana-katta.  
       only           -Nom apple-Acc eat-Past-C say-not-Past

'Only John said that Mary ate apples.'

- (ii) \*John-sika [Mary-ga ringo-o tabe-na-katta to] iw-ta.  
       only           -Nom apple-Acc eat-not-Past-C say-Past

'Only John said that Mary ate apples.'

(Takahashi (1990:141))

In (ii), sika and na occur in different clauses, so that (ii) is ungrammatical.

- (30) a. His<sub>i</sub> mother loves John<sub>i</sub>.  
 b. \*Who<sub>i</sub> does his<sub>i</sub> mother love t<sub>i</sub>?  
 c. \*His<sub>i</sub> mother loves everyone<sub>i</sub>.  
 d. \*[Operator<sub>i</sub> [<sub>TP</sub> ... [<sub>NP</sub> pronoun<sub>i</sub> ] ... t<sub>i</sub> ... ]]

Notice that the LF-representation of (30b-c) is (30d). Even if everyone in (30c) does not move in syntax, unlike wh-phrases in (30b), everyone undergoes LF movement, thereby inducing a WCO violation. Since Hoji and Saito (1983), it has been maintained that languages such as Korean and Japanese exhibit WCO effects (Saito (1985) for Japanese, Joo (1989) for Korean), as seen in the corresponding Korean sentences in (31):

- (31) a. ku<sub>i</sub>-uy emeni-ka John<sub>i</sub>-ul salangha-n-ta  
 his-Gen mother-Nom -Acc love-Pres-Dec  
 'His<sub>i</sub> mother loves John<sub>i</sub>.'  
 b. \*ku<sub>i</sub>-uy emeni-ka nwukwu<sub>i</sub>-lul salangha-ni?  
 his-Gen mother-Nom who-Acc love-Q  
 '\*Who<sub>i</sub> does his<sub>i</sub> mother love t<sub>i</sub>?'  
 c. \*ku<sub>i</sub>-uy emeni-ka nwukwuna<sub>i</sub>-lul salangha-n-ta  
 his-Gen mother-Nom everyone-Acc love-Pres-Dec  
 '\*His<sub>i</sub> mother loves everyone<sub>i</sub>.'

As in English, if we assume that quantifier phrases (QP) such as nwukwu 'who' and nwukwuna 'everyone' undergo movement at LF, the ungrammaticality of sentences in (31b-c) can be attributed to WCO effects.

Interestingly enough, when we replace John by the NPI John-pakkey 'only John' in (31a), the sentence seems to be as ungrammatical as (31b-c), indicating that the NPI undergoes LF



movement. This is illustrated by the ungrammaticality of the following sentence:

- (32) a. \*?ku<sub>i</sub>-uy emeni-ka John<sub>i</sub>-pakkey salangha-ci ani-ha-n-ta  
his-Gen mother-Nom only love-Nominal not-do-Pres

'His mother loves only John.'

- b. ?\*[John<sub>i</sub>-pakkey [<sub>TP</sub> ... [<sub>NP</sub> ku<sub>i</sub> ] ... t<sub>i</sub> ... ]]
- |-----|  
no c-command

In (32b) neither the pronoun ku 'his' nor the trace of the NPI c-commands the other, inducing a WCO violation. So far, I have observed that NPIs in Korean undergo LF movement, just like wh-phrases and QPs. An immediate question then arises as to where the landing site of the NPI is at LF. In the next section, I discuss this matter in some detail.

#### 4.3.2.2. NPI Licensing via Spec-Head Agreement

The preceding arguments have shown that the so-called c-command requirement as a condition for licensing NPIs is by no means sufficient to account for the full range of data involving NPIs. In what follows, assuming the split IP structure, I argue that unlike wh-phrases or ordinary QPs, NPIs move to the Spec of NegP at LF.<sup>13</sup> To be more specific, in order for NPIs to be properly licensed by an appropriate

<sup>13</sup> I assume that *wh*-phrases move to the Spec of CP, while ordinary QPs like *everyone* are adjoined to TP at LF.

licenser in Korean, the following NPI licensing condition was proposed in Kwon (1992a)<sup>14</sup>:

(33) NPI Licensing Condition (Kwon (1992a:52))

In Korean, NPIs are licensed through Spec-Head agreement with Neg at LF.

This is reminiscent of Chomsky's (1992) checking theory which stated that categories lexically specified for certain morphological features must move to a position where these features can be checked off. Assuming the VP-internal subject hypothesis, Chomsky argues that not only subjects but also objects are subject to Case-checking under Spec-Head agreement with an AGR head.

In accord with Chomsky's checking theory, the NPI licensing condition in (33) amounts to the claim that NPIs with the inherent morphological feature [+Neg]<sup>15</sup> must move to the Spec of NegP to be feature checked off through Spec-Head agreement with ani 'not', which is in the head of NegP.

---

<sup>14</sup> Incidentally, Haegeman and Zanuttini (1991), R. Lee (1992), Ohashi (1991) and Sohn (1992) independently propose the same idea. Haegeman and Zanuttini, for example, following Rizzi (1990b), propose the Neg Criterion which is a condition on LF:

The Neg Criterion (Haegeman and Zanuttini (1991:244))

- a. Each Neg  $X^0$  must be in a Spec-Head relation with a Negative operator.
- b. Each Negative operator must be in a Spec-Head relation with a Neg  $X^0$ .

<sup>15</sup> NPIs such as amwuto 'anyone' have the inherent morphological feature [+Neg].

To illustrate how the NPI licensing condition in (33) works, let us take a look at examples. Recall that unlike English, Korean does not exhibit subject and object asymmetry in licensing NPIs, as in (34):

- (34) a. John-pakkey i nonmwun-ul ilk-ci ani-ha-ess-ta  
           only this dissertation-Acc read-Nomi not-do-Past

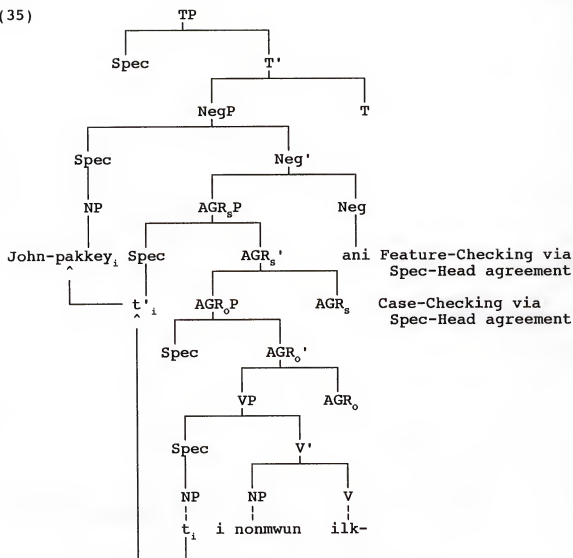
‘Only John read this dissertation.’

- b. John-i i nonmwun-pakkey ilk-ci ani-ha-ess-ta  
      -Nom this diss.-only read-Nomi not-do-Past-Dec

‘John read only this dissertation.’

As shown in (34), both the subject NPI and the object NPI are licensed by negation. The sentence in (34a) is represented as follows:

( 35 )



As illustrated in (35), the NPI John-pakkey 'only John' in the subject position moves to the Spec of  $AGR_sP$ , where it is Case checked through Spec-Head agreement with the head of  $AGR_sP$ . The NPI further moves to the Spec of NegP to be feature checked through Spec-Head agreement with ani in the head of NegP. Hence, the NPI in the subject position is licensed in Korean.

In (34b), however, the NPI i nonmwun-pakkey 'only this dissertation' in the object position moves to the Spec of  $AGR_oP$  to be Case checked via Spec-Head agreement. The NPI further moves to the Spec of NegP to be feature checked via Spec-Head agreement with ani. Therefore, the object NPI in Korean is licensed in exactly the same way as the subject NPI.

Now, let us go back to the issue of the clause-mate requirement that negative operators and negations should occur in the same clause, repeated here as (36):

- (36) a. John-i [Mary-ka amwuto salangha-ci ani-ha-ess-ta-ko]  
           -Nom       -Nom anyone love-Nomi   not-do-Past-Dec-C

sayngkakha-ess-ta  
 think -Past -Dec

'John thought that Mary did not love anyone.'

- b. ?\*John-i [Mary-ka amwuto salangha-ess-ta-ko]  
           -Nom       -Nom anyone love-Past-Dec-Comp

sayngkakha-ci ani-ha-ess-ta  
 think-nominal not-do-Past-Dec

'John did not think that Mary loved anyone.'

The object NPI amwuto in (36a) is able to move to the Spec of  $AGR_oP$  in order to be Case checked via Spec-Head agreement with  $AGR_o$ , the head of  $AGR_oP$ . Recall that the negative operator must be in a Spec-Head configuration with a negative head to be licensed. The NPI then undergoes movement to the Spec of NegP to be feature checked. The LF-representation of (36a) is the following:

- (37) John-<sub>i</sub> [<sub>CP</sub> [<sub>NegP</sub> amwuto<sub>i</sub> [<sub>AGRP</sub>  $t'_i$  [<sub>VP</sub> Mary-ka  $t_i$   
 salangha-ci]]  $ani_{NegP}$ ]-ha-ess-ta-ko] sayngkakha-ess-ta.

As illustrated in (37), amwuto first stops at the Spec of AGR<sub>0</sub>P to be Case checked. The NPI further moves to the Spec of NegP, where the NPI achieves a Spec-Head agreement with a negative head.

As we have discussed in chapter 3, Rizzi (1990a) argues that the Spec of NegP is an A'-position since an intervening negation blocks A'-chains involving adjuncts, but not X<sup>0</sup>-chains (Mitchell (1993)), as the following contrast indicates:

- (38) a. \*Bill is here, as they don't know.  
 b. Bill is here, which they don't know. (Rizzi (1990a:15))  
 c. They have<sub>i</sub> not  $t_i$  left. (Rizzi (1990a:22))

Returning to Korean in (37), it is not clear whether the Spec of NegP is an A- or A'-position, because amwuto is raised to the Spec of AGR<sub>0</sub>P, which is assumed to be an A-position, and moves to the Spec of NegP. Regardless of whether the Spec of NegP is an A- or A'-position, the LF-representation in (37) is legitimate since no grammatical principles, such as the ECP and Subjacency, etc., are violated.

On the other hand, let us consider the ungrammatical sentence in (36b) where the clause-mate requirement is violated. Two possible LF-representations are conceivable to account for (36b), as exemplified in (39):



Furthermore, as R. Lee (1992) notes, the representation in (39a) is also ruled out due to Lasnik and Saito's (1992) Extended Uniformity Condition, which is stated in (41):

(41) The Extended Uniformity Condition

- a.  $\alpha$  assigns inherent Case to  $\beta$  only if  $\alpha$   $\theta$ -marks  $\beta$ .  
(D-structure)
- b. Suppose that  $\beta$  bears a  $\theta$ -role assigned by  $\alpha$ . Then,  
if  $\gamma$  is a barrier for  $\alpha$ ,  $\gamma$  dominates  $\beta$ . (S-structure)  
(Lasnik and Saito (1992:136))

Notice that in (39a) amwuto bears a  $\theta$ -role assigned by the verb salangha 'love' but is not dominated by the CP, so that CP is a barrier for the verb. This constitutes a violation of the Extended Uniformity Condition.

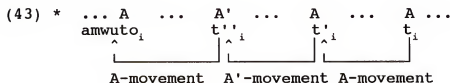
Next, let us take a look at the representation in (39b). First of all, suppose that, as argued by Rizzi (1990a) for English, the Spec of NegP in Korean is an A'-position. In this case, nothing prevents the NPI from moving through the Spec of AGR<sub>o</sub>P and the Spec of CP. That is, the NPI moves to the Spec of AGR<sub>o</sub>P which is assumed to be an A-position, and further moves to the Spec of CP, which is assumed to be an A'-position. Finally, the NPI lands in the Spec of NegP, where Spec-Head agreement is obtained with the head of NegP. This process can be represented as follows:

- (42)    ... A'    ...    A'    ...    A    ...    A ...  
          amwuto<sub>i</sub>    t'<sub>i</sub>    t'<sub>i</sub>    t'<sub>i</sub>    t<sub>i</sub>  
             ^           ^           ^           ^  
          A'-movement    A'-movement    A-movement



The LF process represented in (42) is legitimate, because nothing is violated. Therefore, if we assume that the Spec of NegP is an A'-position, sentences like (39b) are incorrectly predicted to be grammatical (R. Lee (1922), Sohn (1992)).

On the other hand, suppose that the Spec of NegP in Korean is an A-position. Then, the process has the following configuration:



In the representation in (43), the original trace  $t_i$  is antecedent governed by an intermediate trace  $t'_i$ . An intermediate trace  $t'_i$ , however, should be A-free in all domains because it is a trace left by A'-movement, i.e., a variable. This is bound by the NP in an A-position as a result of further A-movement from an A'-position. Hence, this kind of improper movement is ruled out as a violation of the binding condition (C) of the binding theory<sup>17</sup> in so far as a variable is A-bound. This further suggests that illicit NP-movement as a locality condition on chains holds at LF.

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<sup>17</sup> I assume the following formulation of the binding theory (Chomsky (1981:188)):

- (A) An anaphor is bound in its governing category.
- (B) A pronominal is free in its governing category.
- (C) An R-expression is free.

Alternatively, this type of illicit NP-movement is also ruled out by the fact that it creates two chains, i.e., a chain (amwuto<sub>i</sub>, t'<sub>i</sub>) and another chain (t'<sub>i</sub>, t'<sub>i</sub>, t<sub>i</sub>). This follows from Chomsky's (1989, 1991) Least Effort principle which states that shorter derivations are always chosen over longer ones. This is further demonstrated by the following illicit NP-movement in English:

- (44) \*John<sub>i</sub> seems [<sub>CP</sub> t'<sub>i</sub> that [<sub>TP</sub> t<sub>i</sub> is intelligent]]].
- 

As pointed out by J.-M. Yoon (1991), this kind of successive cyclic NP-movement from finite CPs in English is not allowed, since the Spec of CP is an A'-position and thus NP-movement cannot proceed through it. This would result in an illicit chain. Therefore, the ungrammaticality of (39b) suggests that the Spec of NegP in Korean is an A-position, unlike English, as argued in R. Lee (1992) and Sohn (1992).<sup>18</sup>

#### 4.3.2.3. NPI Licensing in MNC

NPIs in the so-called multiple nominative constructions (MNCs) are licensed by negation as well in Korean, as in (45):

- (45) a. amwuto pay-ka            aphu-ci            ani-ha-ta  
          anyone stomach-Nom ache-Nominal not-do-Dec  
          `Nobody has a stomachache.'

<sup>18</sup> See section 4.3.3 for parametric differences on the Spec of NegP between the two languages.

b. amwuto khi-ka      cak-ci      ani-ha-ta  
 anyone height-Nom small-Nominal not-do-Dec

'Nobody is small.'

The examples in (45) show that the two NPs are checked off nominative Case,<sup>19</sup> although the predicates aphu 'ache' and cak 'tall' select only one argument. To account for the NPI licensing in MNC, I assume, following Kang (1987), J.-H. Suh (1990) and S.-K. Suh (1992), that the MNC in (45a) involves the following D-structure (irrelevant details are omitted):

---

<sup>19</sup> NPIs in Korean do not carry any Case-markers, as in (i).

- (i) \*amwuto-ka      (anybody-Nominative)  
 \*amwuto-uy      (anybody-Genitive)  
 \*amwuto-lul      (anybody-Accusative)  
 \*amwuto-eykey (anybody-Dative)

However, when amwuto is replaced by an NP, the NP must bear a Case-marker, as shown below:

- (ii) John-i pay-ka      aphu-ta  
       -Nom stomach-Nom ache-Dec

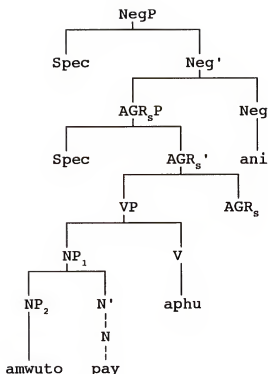
'John has a stomachache.'

- (iii) \*John pay-ka      aphu-ta  
       stomach-Nom ache-Dec

'John has a stomachache.'

We conjecture based on the above contrast that the sentences in (45) are MNCs, even though the NPI does not bear a Case-marker.

(46)



Following Kang (1987), I argue that at LF, the head of the subject in (46), i.e., pay 'stomach', is incorporated with another head, namely, the predicate aphu 'ache'.<sup>20</sup> However, unlike Kang, I claim that amwuto, which is inside another NP, is raised to the Spec of AGR<sub>s</sub>P to check nominative Case and ultimately to the Spec of NegP to satisfy the feature checking

<sup>20</sup> J.-H. Suh (1990) and S.-K. Suh (1992) assume that this process occurs at S-structure.

requirement.<sup>21</sup> Thus, the LF-representation of (46) would look like the following:<sup>22</sup>

---

<sup>21</sup> According to Kang, the first NP does not undergo raising but stays in situ, while the second NP is incorporated into the verb. In this case, he simply stipulates that the trace of the NP is deleted.

<sup>22</sup> The underlying idea is based on the observation that the following sentences are rough thematic paraphrases. That is, the first NP John and the second NP pay have some semantic relation, i.e., possession.

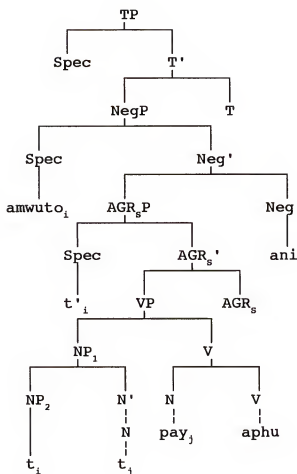
- (i) John-i pay-ka aphu-ta.  
-Nom stomach-Nom ache-Dec

'John has a stomachache.'

- (ii) John-uy pay-ka aphu-ta.  
-Gen stomach-Nom ache-Dec

'John has a stomachache.'

(47)



An immediate question we can raise is whether the LF-representation in (47) is well-formed. Recall that  $AGR_sP$  and VP are not barriers, so that the original trace left by the NPI movement is antecedent governed by an intermediate trace, which in turn is antecedent governed by amwuto. Further, note that the head of the subject NP pay 'stomach' is incorporated into the predicate governing it, so that the trace left by pay is properly governed by the verb. This follows from Baker's (1988) Government Transparency Corollary in (48).

(48) The Government Transparency Corollary (Baker (1988:64))

A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.

As far as  $\theta$ -role in (47) is concerned, I assume, with Kang (1987), that the subject NP is assigned a  $\theta$ -role by the complex verb, pay + aphu, at LF. Therefore, the licensing of the NPI in MNC in Korean is easily accounted for by saying that NPIs are licensed via Spec-Head agreement with negation at LF.

#### 4.3.3. Parametric Differences

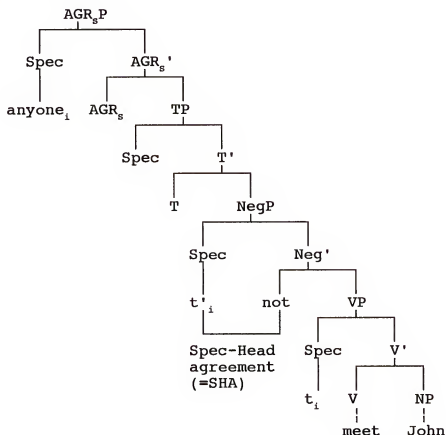
With the NPI licensing condition in (33) in mind, let us now examine some additional parametric differences between English and Korean. As we have shown, English does exhibit subject and object asymmetry with respect to NPI licensing in that not licenses object NPIs, but not subject NPIs, as in (49):

- (49) a. \*Anyone did not meet John.  
b. John did not meet anyone.

First of all, let us consider the case in (49a) in some detail. According to Chomsky (1992), the subject NPI anyone, which is in the Spec of VP, must move to the Spec of  $AGR_sP$  in order to satisfy the Case-checking requirement. However, anyone cannot move directly to the Spec of  $AGR_sP$  across the intervening NegP boundary for two reasons: First, if anyone

moves directly to the Spec of AGR<sub>s</sub>P without stopping at the Spec of NegP, it would violate the ECP, because NegP constitutes a barrier to antecedent government. Second, as R. Lee (1992) notes, the subject NPI in the Spec of AGR<sub>s</sub>P is not licensed since it did not check off its [+Neg] feature. Therefore, the NPI movement must involve two steps. That is, anyone must first move to the Spec of NegP in order to check off its [+Neg] feature as required by the NPI licensing condition in (33) via Spec-Head agreement with not. The NPI further must move up to the Spec of AGR<sub>s</sub>P to satisfy the Case-checking requirement. We would then obtain the following LF-representation:

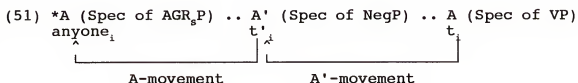
(50)





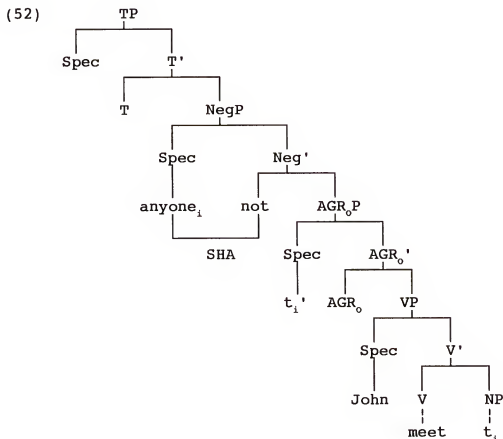
At first glance, the LF-representation in (50) seems to be legitimate because neither the first nor second movement crosses any barriers. Notice that NegP is not a barrier since it is  $\theta$ -marked by Tense. Therefore, neither movement crosses any barrier.

If the Spec of NegP in English is an A-position, then the representation in (50) is a legitimate structure and (49a) is wrongly predicted to be grammatical. On the other hand, as argued by Rizzi (1990a), if the Spec of NegP in English is an A'-position, then the LF-representation in (50) is barred by improper movement. To be more specific, the movement of the NPI in the subject position proceeds at LF as follows:



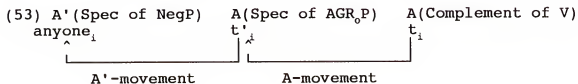
Anyone in (51) must involve movement from the Spec of NegP, which is an A'-position, to the Spec of AGR<sub>S</sub>P, which is an A-position. This movement is clearly an instance of improper movement, as discussed in R. Lee (1992). In other words, according to binding condition (C) of the binding theory, the A'-bound trace must be A-free in all domains. However, this is not the case in (51). Hence, if we assume that the Spec of NegP in English is an A'-position, as Rizzi (1990a) argues, the NPI in the subject position is correctly predicted not to be licensed.

Next, going back to the NPI in the object position in (49b), the object NPI movement, like the subject NPI movement, must involve two steps. The NPI must move to the Spec of  $AGR_oP$  in order for it to be Case checked off via Spec-Head agreement with AGR. Further, the NPI must move to the Spec of NegP to be licensed by not, as required by the NPI licensing condition in (33), as illustrated in (52):



The tree diagram in (52) is legitimate since the NPI anyone is free to move from its original position through the Spec of  $AGR_oP$  to be Case checked to the ultimate landing site, the Spec of NegP. Neither movement crosses any barriers. To be

more concrete, the movement of the NPI in the object position proceeds at LF as in (53):



This is licit at LF, since the movement of the NPI does not violate any grammatical principles. Therefore, the grammatical difference between (49a) and (49b) is accounted for in terms of the NPI licensing condition in (33) by assuming that the Spec of NegP in English is an A'-position, as Rizzi (1990a) suggests. Hence, I propose that the NPI licensing condition in (33), which was originally assumed to be limited to Korean, be formulated as follows to include NPIs for English.

(54) NPI Licensing Condition

NPIs are licensed through Spec-Head agreement with Neg at LF.

I propose (54) to be a condition on NPI licensing, which applies universally at LF.

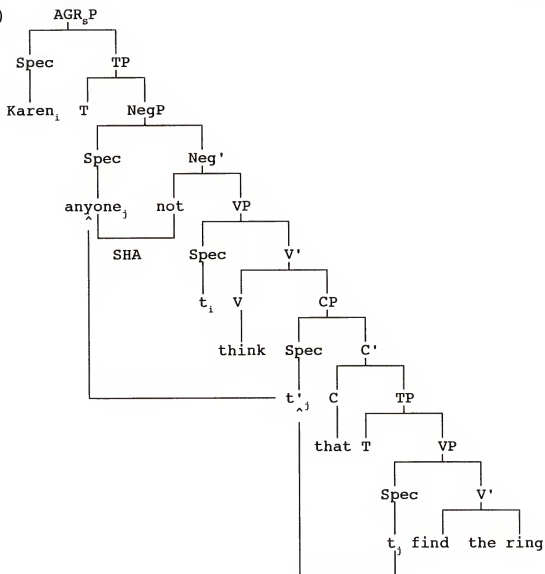
If the reasoning stated thus far is correct, then we can account for the fact that the relation between negation and NPIs in English is unbounded. The relevant examples are reproduced here as (55):

- (55) a. Karen doesn't think that anyone will find the ring.  
b. Nobody believes that anything can be done.

Recall that since the NPI in (55) is c-commanded by not at S-structure, the examples are grammatical. Furthermore, as was discussed in the previous section regarding NPI licensing, Laka (1990, 1991) argues that the NPIs are licensed by the complementizer that, which is selected by the verb when it is negated.

Under the analysis given thus far, however, the sentence in (55a) is represented as the well-formed LF configuration as follows:

(56)



As illustrated in (56), the NPI moves successive-cyclically to the Spec of NegP through the Spec of CP of the embedded clause, without crossing any barriers. The movement of the NPI is legitimate, because the Spec of CP can be utilized as an escape hatch for the subsequent movement of the NPI, as

occurs in wh-movement.<sup>23</sup> Notice that neither movement crosses any barriers to antecedent government. Thus the long-distance relation between negation and the NPI can be accounted for by virtue of the Spec-Head agreement with not.

Let us now consider the Korean counterpart of the English example in (55a):

- (57) \*Karen-i [amwuto panci-lul chacul-kesi-ta-ko]  
       -Nom anyone ring-Acc find-Fut-Dec-Comp

sayngkakha-ci ani-ha-ess-ta  
 think-Nominal not-do-Past-Dec

'Karen doesn't think that anyone will find the ring.'

Unlike English, the Korean counterpart in (57) is ungrammatical which might negate the validity of the previous approaches. That is, neither c-command at S-structure nor a negative complementizer that accounts for the ungrammaticality of (57). On the other hand, under the NPI movement analysis at LF, the ungrammaticality of (57) can be elegantly handled, as seen below:

---

<sup>23</sup> In the following example (i), a wh-phrase is assumed to move to the Spec of CP in the matrix clause in a successive cyclic fashion as in (ii).

- (i) Who<sub>i</sub> do you think that John loves t<sub>i</sub>?  
 (ii) [Who<sub>i</sub> do [<sub>CP</sub> you think [<sub>CP</sub> t'<sub>i</sub> that [<sub>TP</sub> John loves t<sub>i</sub>]]]]?

In (ii), the Spec of CP serves as an escape hatch for the wh-movement, so that (i) does not violate Subjacency.

- (58) \*Karen-i [<sub>NegP</sub> amwuto<sub>i</sub> [<sub>CP</sub> t'<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> panci-lul chacul-kesi  
           -Nom          anyone                                  ring-Acc find-Fut  
           -ta<sub>TP</sub>] -ko<sub>CP</sub>] sayngkakha-ci ani<sub>NegP</sub>] -ha-ess-ta  
           -Dec -Comp think-Nominal not          -do-Past-Dec

As illustrated in (58), the NPI moves to the Spec of NegP in the matrix clause through the Spec of CP of the embedded clause in order for the NPI to be feature checked off in observance of the NPI licensing condition in (54), as in English. If we assume that the Spec of NegP in Korean is an A'-position as in English, the LF-representation in (58) is legitimate. This indicates that the Korean example in (58) is wrongly predicted to be grammatical. On the other hand, if we assume that the Spec of NegP in Korean is an A-position, the ungrammaticality of (58) follows from improper movement prohibited by the binding condition (C) of the binding theory. Therefore, the position of the Spec of NegP should be parametrized, as R. Lee (1992) and Sohn (1992) suggest. In other words, the Spec of NegP in Korean is an A-position, while the Spec of NegP in English is an A'-position.

One of the advantages of our analysis is that it can also account for the NPI in the Spanish subjunctive mood. The relevant examples are in (59)<sup>24</sup>:

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<sup>24</sup> I am grateful to Enrique Mallén (p.c.) for directing my attention to this fact.

- (59) Spanish (Arnaiz (1993:6))  
 a. No pretendo que nadie te arreste  
 b. No pretendo que te arreste nadie

'I do not expect anybody to arrest you.'

In (59a), a preverbal NPI is allowed in subject position. (59b) shows that a postverbal subject NPI is possible even if the negative marker is in the matrix clause. The same facts are observed in the case of NPIs in object position, as in (60):

- (60) Spanish (Arnaiz (1993:6))  
 a. No pretendo que arrestes a nadie  
     'I do not expect you to arrest anybody.'  
 b. Pedro no cree que Juan haga nada  
     'Pedro does not believe Juan to do anything.'

Based on the treatment of wh-phrases in Chinese proposed in Aoun and Li (1993)<sup>25</sup> and on the proposal of Progovac (1988) concerning NPIs, Arnaiz (1993) suggests a unified account for both phenomena that treats these elements as A'-anaphors. That is, these elements are characterized as A'-anaphors functioning as variables, not subject to LF movement. This would mean that wh-phrases and NPIs must be A'-bound in their governing category in the sense of the Generalized Binding

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<sup>25</sup> Aoun and Li (1993) argue that in both English and Chinese wh-phrases in situ remain in situ even in the LF component: they need not raise to the Spec of CP at LF.



theory.<sup>26</sup> That is, they need to be clause-bounded to an A'-binder, an element in an A'-position.

On the other hand, the proposed analysis throughout this study runs in the following manner: if we assume that the Spec of NegP in Spanish is an A'-position, the grammaticality of the examples in (59) and (60) follows from the NPI licensing condition in (54). That is, the NPI moves to the Spec of CP which is assumed to be an A'-position. Next, the NPI lands in the Spec of NegP, where Spec-Head agreement is obtained with the head of NegP. This movement is licit by saying that the Spec of NegP in Spanish is an A'-position.

So far, I have argued that the position of the Spec of NegP should be parametrized: the Spec of NegP in Korean is an A-position, while the Spec of NegP in English and Spanish subjunctive is an A'-position. This parametrization accounts for the subject and object asymmetry in licensing NPIs and for the long-distance licensing of NPIs in English. Moreover, it accounts for the fact that in Korean there is no such asymmetry and that NPIs obey strict locality constraints.

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<sup>26</sup> Aoun (1985:28) formulates the Generalized Binding theory as follows:

- A. An anaphor must be X-bound in its governing category.
- B. A pronominal must be X-free in its governing category.
- C. A name must be X-free. (where X = A or A')

#### 4.4. NPI Licensing and Scrambling

Recall that in Korean, negative operators and negations should appear in the same clause, as reproduced in (61):

- (61) a. John-i [Mary-ka amwuto salangha-ci ani-ha-ess-ta-ko]  
           -Nom       -Nom anyone love-Nomi       not-do-Past-Dec-C

sayngkakha-ess-ta  
 think -Past -Dec

'John thought that Mary did not love anyone.'

- b. ?\*John-i [Mary-ka amwuto salangha-ess-ta-ko]  
           -Nom       -Nom anyone love-Past-Dec-Comp

sayngkakha-ci ani-ha-ess-ta  
 think-nominal not-do-Past-Dec

'John did not think that Mary loved anyone.'

The unmarked word order may be altered through scrambling, which is assumed to be an instance of move- $\alpha$  applying between D-structure and S-structure (Saito (1985)). Interestingly enough, it has been observed in Kwon (1992a) that when the NPI is scrambled out of an embedded clause to sentence-initial position, the grammaticality is reversed, as shown in (61a-b) above and (62a-b) below (Kwon (1992a:57))<sup>27</sup>:

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<sup>27</sup> The grammatical judgements of (62b) seem to vary among native speakers. Beom Yoo (p.c.), for example, judged (62b) to be ungrammatical, and several of my informants were reluctant to accept this sentence. However, many other native speakers, myself included, judged (62b) to be grammatical.

- (62) a. ?\*amwuto<sub>i</sub> [John-i [Mary-ka t<sub>i</sub> salangha-ci ani-ha-ess  
                        -Nom         -Nom         love-Nominal not-do-Past

-ta-ko] sayngkakha-ess-ta  
-Dec-Comp think -Past-Dec

'Anyone, John thought that Mary did not love t.'

- b. amwuto<sub>i</sub> [John-i [Mary-ka t<sub>i</sub> salangha-ess-ta-ko]  
                   -Nom          -Nom          love -Past-Dec-Comp

sayngkakha-ci ani-ha-ess-ta  
think-Nominal not-do-Past-Dec

'Anyone, John did not think that Mary loved t.'

Note that sentences (62a-b) are derived from (61a-b), respectively, by scrambling amwuto from the embedded clause to sentence-initial position.

Before going further, let us consider the possibility of reconstruction at LF. Saito (1989, 1992) argues that in Japanese, scrambling as semantically vacuous A'-movement does not establish a semantically significant operator-variable relation and that it can be freely undone at LF without leaving a trace, unlike topicalization and wh-movement in English. Crucial paradigms he gives are the following:

- (63) a. [Masao-ga [<sub>CP</sub> [<sub>TP</sub> Hanako-ga dono hon-o  
-Nom -Nom which book-Acc

tosyokan-kara karidasita] ka] siritagatteiru] koto  
library-from checked-out Q want-to-know fact

'The fact that Masao wants to know [Q [Hanako checked out which book from the library]].'

- b. ?[Dono hon-o<sub>i</sub> [Masao-ga [<sub>CP</sub>[<sub>TP</sub> Hanako-ga t<sub>i</sub> tosyokan  
-kara karidasita] ka] siritagatteiru]] koto

'The fact that which book<sub>i</sub>, Masao wants to know [Q  
[Hanako checked out t<sub>i</sub> from the library]].'  
(Saito(1992:84))

(63a-b) have the following representations, respectively:

- (64) a. [<sub>TP</sub> ... [<sub>CP</sub> [<sub>TP</sub> ... wh ... ] Q] ...]  
b. [<sub>TP</sub> wh<sub>i</sub> ... [<sub>TP</sub> [<sub>CP</sub> [<sub>TP</sub> ... t<sub>i</sub> ... ] Q]] ...]

In (64a), the wh-phrase dono hon 'which book' moves to the Spec of CP headed by the Q-morpheme at LF and the trace left by LF wh-movement is bound; hence, (63a) is well-formed. On the other hand, in (63a) the wh-phrase is scrambled out of the embedded clause all the way to sentence-initial position. If the wh-phrase moves to the Spec of CP at LF, leaving behind a trace, then the trace is not properly bound and hence the sentence in (63b) violates the proper binding condition at LF, which states that traces must be bound (Fiengo (1977)). The sentence in (63b), however, is unexpectedly well-formed. Therefore, Saito (1989, 1992) argues that scrambled phrases can be freely undone (reconstructed) to their D-structure positions in LF without leaving traces.

Furthermore, Saito (1992) argues that scrambling necessarily creates an A'-chain at S-structure, but since this A'-chain is licensed at S-structure, but not at LF, a scrambled phrase undergoes one of the following processes at LF:

- (65) a. The position disappears at LF.  
b. The position is reanalyzed as an operator position.  
c. The position is reanalyzed as an A-position.  
(Saito (1992:99-100))

As Saito notes, (65a) is fulfilled when the scrambled phrase is moved to its D-structure at LF. (65b) is invoked when the scrambled phrase stays in its S-structure position at LF. (65c) is achieved when the landing site of the scrambled phrase is reanalyzed as an A-position at LF.

Keeping this idea in mind, let us return to cases involving scrambled NPIs, repeated in (66):

- (66) a. ?amwuto<sub>i</sub> [John-i [Mary-ka t<sub>i</sub> salangha-ci ani-ha-ess  
                                   -Nom           -Nom           love-Nominal not-do-Past  
                                   -ta-ko] sayngkakha-ess-ta  
                                   -Dec-Comp think       -Past-Dec  
                   'Anyone, John thought that Mary did not love t<sub>i</sub>.'
- b. amwuto<sub>i</sub> [John-i [Mary-ka t<sub>i</sub> salangha-ess-ta-ko]  
                                   -Nom           -Nom           love -Past-Dec-Comp  
                   sayngkakha-ci ani-ha-ess-ta  
                   think-Nominal not-do-Past-Dec  
                   'Anyone, John did not think that Mary loved t<sub>i</sub>.'

Amwuto in (66a-b) will undergo A'-movement at S-structure, as illustrated in (67a-b), respectively:

- (67) a. ?\*[<sub>TP</sub> amwuto<sub>i</sub> [<sub>TP</sub> John-i [<sub>NegP</sub> [<sub>CP</sub> [<sub>TP</sub> Mary-ka t<sub>i</sub> salangha-ci  
[ani<sub>Neg</sub>] -ha-ess-ta]-ko<sub>CP</sub>] NegP] sayngkakha-ess-ta]]  
b. [<sub>TP</sub> amwuto<sub>i</sub> [<sub>TP</sub> John-i [<sub>NegP</sub> [<sub>CP</sub> [<sub>TP</sub> Mary-ka t<sub>i</sub> salangha-ess  
-ta]-ko] sayngkakha-ci [ani<sub>Neg</sub>] NegP] -ha-ess-ta]]

Suppose that at LF, the scrambled phrase amwuto moves back to the Spec of NegP in order for it to be [+Neg] feature checked off, leaving behind a trace. Then, the LF-representations look like (68):

- (68) a.  $?*[_{TP} t'_i [_{TP} \text{John-i} [_{NegP} \text{amwuto}_i [_{CP} [_{TP} \text{Mary-ka } t_i \text{ salangha} \\ -\text{ci} [_{ani}_{Neg} ] -\text{ha-ess-ta}]-\text{ko}_{CP} ]_{NegP} ] \text{ sayngkakha-ess-ta}]]]$
- b.  $[_{TP} t'_i [_{TP} \text{John-i} [_{NegP} \text{amwuto}_i [_{CP} [_{TP} \text{Mary-ka } t_i \text{ salangha} \\ -\text{ess-ta}]-\text{ko} ] \text{ sayngkakha-ci} [_{ani}_{Neg} ]_{NegP} ] -\text{ha-ess-ta}]]]$

In (68), the trace left by the lowering of the NPI amwuto is not bound and thus, the LF-representation in (68) would violate the proper binding condition, namely the ECP. However, the sentence in (66b) is grammatical.

An immediate question that arises is whether or not the trace left by amwuto can be deleted in terms of Lasnik and Saito's (1984) Affect- $\alpha$ . Since the trace is in the object position, it cannot be deleted without violating the Projection Principle.<sup>28</sup>

On the other hand, suppose that at LF, the scrambled NPI amwuto moves back to the Spec of NegP without leaving a trace. The LF-representations after the reconstruction of the scrambled phrase are given in (69):

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<sup>28</sup> The definition of the Projection Principle is stated as follows (Chomsky (1981:29)):

"Representations at each syntactic level (i.e., LF, and D- and S-structure) are projected from the lexicon in that they observe the subcategorization properties of lexical items."

- (69) a. ?\*John-i [<sub>NegP</sub> amwuto<sub>i</sub> [<sub>CP</sub>[<sub>TP</sub> Mary-ka t<sub>i</sub> salangha-ci  
           [ani<sub>Neg</sub>] -ha-ess-ta]-ko<sub>CP</sub>] [<sub>NegP</sub>] sayngkakha-ess-ta  
       b. John-i [<sub>NegP</sub> amwuto<sub>i</sub> [<sub>CP</sub>[<sub>TP</sub> Mary-ka t<sub>i</sub> salangha-ess-ta]  
           -ko] sayngkakha-ci [ani<sub>Neg</sub>] [<sub>NegP</sub>] -ha-ess-ta

In (69a), Spec-Head agreement does not occur, because the NPI amwuto is in the Spec of NegP in the matrix clause, while the negative morpheme ani 'not' is in the head of NegP in the embedded clause. Therefore, (69a) violates the NPI licensing condition in (54). On the other hand, in (69b), Spec-Head agreement occurs since amwuto is lowered to the Spec of NegP in the matrix clause and ani is also in the head of NegP in the matrix clause. Thus, (69b) satisfies the NPI licensing condition in (54).

So far, we have argued that given Saito's (1989, 1992) proposal that scrambling can be freely undone at LF, the distributional differences between the scrambled NPIs and the nonscrambled NPIs can be easily accounted for in terms of the NPI licensing condition in (54).

#### 4.5. Independent Evidence for Movement at LF

It has already been mentioned in the previous sections that the relation between NPIs and negation in English is unbounded, as in (70):

- (70) a. They don't believe that I think that John loves  
           anyone.  
       b. They don't believe that I think that anyone loves  
           Mary.

In what follows, however, I provide several pieces of evidence that long-distance licensing of NPIs obeys some constraints such as the Complex NP constraint (CNPC), the Specificity condition, and the Wh-island constraint, which might provide independent evidence for a movement analysis of NPIs based on the checking theory (Baker (1970), Chomsky (1992), R. Lee (1992), Ohashi (1991), Progovac (1988), and Ross (1967), among others).

#### 4.5.1. NPIs and Island Constraints

It has been noted that NPIs in English obey the CNPC (Baker (1970), Ross (1967)). Baker (1970) observes that NPIs are not licensed by negation in a complex NP island as in (71):

- (71) a. We weren't aware that anyone had ever done anything.  
 b. ?\*We weren't aware of the fact that anyone had ever done anything. (Baker (1970:184))

Ross (1967) further observes that the relation between NPIs and negation obeys island constraints.

- (72) Complex Noun Phrase (Ross (1967:249))

- a. Waldo didn't report that anyone had left.  
 b. \*Waldo didn't report the possibility that anyone had left.

- (73) Sentential Subject (Ross (1967:254))

- a. I deny that it is certain that McIntyre has any money.  
 b. \*I deny that McIntyre has any money is certain.



(74) Noun Complement Clause (Progovac (1988:99))

- a. Do you believe that anybody was looking for anything.
- b. \*Do you believe the claim that anybody was looking for anything.

(75) Relative Clause (Progovac (1988:100))

- \*I never met that man who anybody tried to kill.

The grammatical distinction observed above does not follow from the alleged c-command requirement at S-structure as the NPI licensing condition.

On the other hand, if we assume that the NPI anyone in (71) moves to the Spec of NegP through the Spec of CP of the embedded clause in order to satisfy the Neg-feature checking requirement at LF, then the sentences in (71) are represented at LF as follows:

- (76) a. We were [<sub>NegP</sub> anyone<sub>i</sub> [<sub>Neg</sub> n't [aware [<sub>CP</sub> t'<sub>i</sub> that  
[t<sub>i</sub> had ever done anything]]]]]
- b. ?\*We were [<sub>NegP</sub> anyone<sub>i</sub> [<sub>Neg</sub> n't [aware of [<sub>NP</sub> the fact  
[<sub>CP</sub> t'<sub>i</sub> that [t<sub>i</sub> had ever done anything]]]]]]]

The derivation in (76b) is ruled out due to a violation of Subjacency since the movement of the NPI involves an intervening barrier. Therefore, long-distance licensing of NPIs is not possible in an island construction.

#### 4.5.2. NPIs and the Specificity Constraint

Fiengo and Higginbotham (1981) point out that there is a contrast between definite and indefinite NPs with respect to extraction.

- (77) a. Who did you see pictures of?  
 b. \*Who did you see the picture of?  
 (Fiengo and Higginbotham (1981:402))

According to them, the grammatical contrast in (77) is attributed to the Specificity condition: extraction from specific NPs, as opposed to nonspecific NPs, is not allowed.

Furthermore, they argue that the Specificity condition is applied at LF due to its interaction with QR as in (78):

- (78) a. People from every walk of life like jazz.  
 b. Pictures of everybody are on my desk.  
 (79) a. The people from every walk of life like jazz.  
 b. The pictures of everybody are on my desk.  
 (Fiengo and Higginbotham (1981:404-05))

According to Fiengo and Higginbotham, in (78a-b), the quantifiers every walk of life and everybody have wide scope, while in (79a-b), they cannot have wide scope. This suggests that a quantifier cannot raise out of a specific NP.

Since Specificity applies at LF, we can expect it to apply to NPIs as well. This prediction is borne out by the following contrast:

- (80) a. I didn't see any of the children.  
 b. I didn't see pictures of any of the children.  
 c. \*I didn't see John's pictures of any of the children.

- (81) a. John doesn't think that pictures of anyone will be on sale.  
 b. \*John doesn't think that Mary's pictures of anyone will be on sale. (Brame (1981:307))

A question arises as to why it is that (80c) and (81b), in contrast to (80a-b) and (81a), are ill-formed with the interpretation where anyone has wide scope over not. This is reminiscent of the Specificity condition in that the intervening prenominal genitive NP blocks the relation between negation and the NPI.

Finally, the following examples from Chomsky (1977) provide further evidence against the c-command requirement at S-structure.

- (82) a. We can't find books that have any missing pages.  
 b. \*We can't find the books that have any missing pages.  
 c. \*We can't find those books that have any missing pages.  
 d. \*We can't find John's books that have any missing pages.

(82a), where the relative head NP is preceded by a null determiner, is well-formed. Sentences in (82b-d), where the relative head NP is preceded by a definite article, a demonstrative NP, and a genitive NP, respectively, are all ungrammatical. In accord with the Specificity constraint, the nonspecific NP in (82a) does not block any relation between negation and the NPI, while the specific NP in (82b-d) does.

To account for the full range of the data above, I assume, with Abney (1987), Fukui (1986), Miller (1993), and Stowell (1989), that NP functions as a complement of the

D(eterminer), which is called the DP-hypothesis. Then, the distinction drawn between cases involving the nonspecific NP on the one hand and those involving the specific NP on the other follows from the NPI licensing condition in (54), with the following Stowell's (1989) proposal<sup>29</sup>:

(83) A referential category is a barrier to antecedent government. (Stowell (1989:245))

(83) amounts to the claim that [+specific] DPs are barriers to antecedent government.

Given these theoretical backgrounds, let us go back to the Specificity constraint in (80), which is reproduced here as (84):

- (84) a. I didn't see any of the children.  
 b. \*I didn't see John's pictures of any of the children.

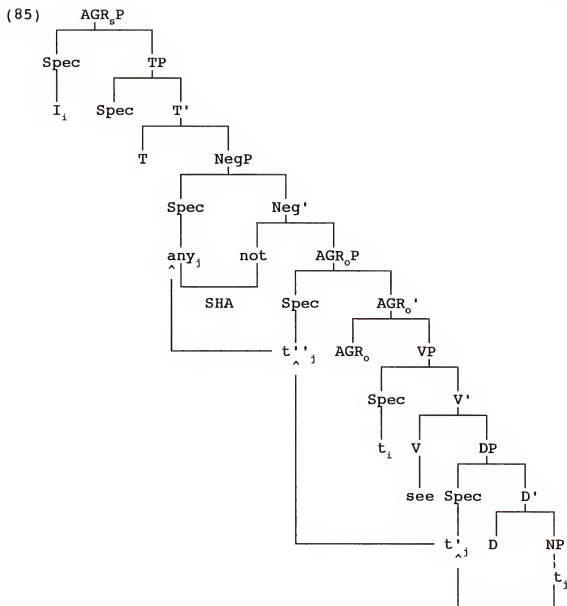
(84a) is represented at LF as (85):

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<sup>29</sup> According to Stowell, factive CPs, like referential DPs but unlike nonfactive CPs, are referential, in which case the extraction of adjuncts is prohibited. That is, when the Spec of DP is filled, DP is always referential. Observe the following ungrammatical sentences:

- (i) \*Why do you regret [that John resigned t]?  
 (ii) \*When did it surprise you [that John left t]?  
 (Stowell (1989:245))

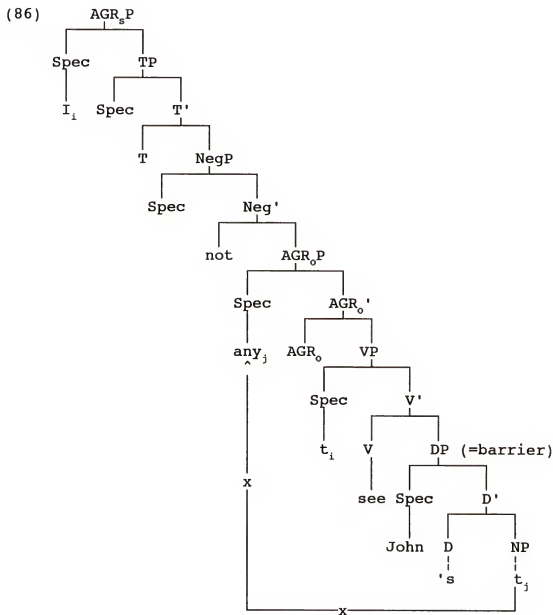
As shown above, the extraction of an adjunct from a factive CP complement is ruled out due to the ECP.



In (85), the NPI moves to the Spec of  $AGR_oP$  through the Spec of DP, which is not filled. Recall that the Spec of DP can serve as a landing site for movement. Finally the NPI lands in the Spec of NegP. Therefore, the NPI is licensed with an intermediate trace,  $t''_j$ , in the Spec of  $AGR_oP$  satisfying the Case-checking requirement. Further, the NPI is licensed with

any in the Spec of NegP satisfying the Neg-feature checking requirement by virtue of the Spec-Head agreement with not, which is in the head of NegP.

(84b), on the other hand, is represented at LF as follows:



In (86), the NPI cannot move through the Spec of DP, but must move directly to the Spec of AGR<sub>P</sub>, because the Spec of DP, which is filled by John, cannot be served as an escape hatch for movement. Hence, (86) is ruled out because there is an intervening barrier DP between the NPI and its trace. Therefore, the NPI is not licensed by not at LF.

#### 4.5.3. NPIs and the Wh-Island Constraint

Finally, let us consider the relation between NPIs and not in wh-island constructions. Observe the following examples:

- (87) a. ?I don't know who bought anything.  
       b. ?\*I don't know what anybody bought
- (88) a. \*John doesn't know when any student left.  
       b. \*John doesn't know why any student left.  
               (Ohashi (1991:39))

As illustrated in (87), there is a subject and object asymmetry in licensing the NPI. In other words, when the wh-phrase occurs in the subject position as in (87a), the NPI is licensed by not, whereas when it occurs in the object position as in (87b), the NPI is not licensed by not. Furthermore, as seen in (88), the NPI is not licensed when an adjunct wh-phrase intervenes between negation and the NPI. As discussed earlier, these examples pose a serious problem for the alleged c-command requirement at S-structure as a licensing condition.

As has been noted, the fact that the relation between negation and NPIs obeys wh-island constraints supports

independent evidence for a movement analysis of NPIs. These types of asymmetry in licensing NPIs are reminiscent of Chomsky's (1986b) Vacuous Movement Hypothesis (VMH) which stated that *wh*-subjects may remain in the Spec of TP at S-structure, while *wh*-nonsubjects must move to the Spec of CP at S-structure. This is illustrated by the following example (Chomsky (1986b:48)):

(89) What<sub>i</sub> do you wonder [<sub>CP</sub> t'<sub>i</sub> [<sub>TP</sub> who saw t<sub>i</sub>]]

As Chomsky notes, what moves from its original position to the Spec of CP in the embedded clause and then to the matrix Spec position.<sup>30</sup> Following this suggestion, the NPI in (87a) moves to the Spec of NegP through the Spec of CP in the embedded clause, as exemplified in (90):

(90) [<sub>AGRP</sub> I [<sub>TP</sub> do [<sub>NegP</sub> anything<sub>j</sub> [<sub>Neg</sub> not [know [<sub>CP</sub> t''<sub>j</sub>  
[<sub>TP</sub> who<sub>i</sub> [<sub>AGROP</sub> t'<sub>j</sub> [ t<sub>i</sub> bought t<sub>j</sub>]]]]]]]]]]]

In the structure in (90), the NPI first moves in a successive cyclical fashion from its original position to the Spec of CP of the embedded clause through the Spec of AGRP, thereby satisfying the Case-checking requirement. Recall that the Spec of CP is not occupied by who at S-structure, so that this position can be utilized as an escape hatch for the subsequent movement of the NPI at LF as allowed by the VMH, as Chomsky

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<sup>30</sup> Chomsky (1986b) further notes that *wh*-phrases move to the Spec of CP at LF whenever they remain in situ at S-structure.





#### 4.6 Conclusion

In this chapter, I have examined the distributional differences between English NPIs and Korean NPIs. The contrast between English and Korean NPIs was shown to be reduced to a more general condition on feature checking theory at LF (Chomsky (1992)), with independently motivated principles such as the chain condition, the binding condition (C) of the binding theory, and the Extended Uniformity condition.

It was shown in section 4.2 that the alleged c-command requirement cannot directly extend to Korean NPIs or even to English NPIs. In section 4.3, I proposed an alternative analysis of the NPI licensing condition (54) that NPIs are licensed through Spec-Head agreement at LF and showed how the full range of data follows naturally from the new proposed analysis. In English, there is subject and object asymmetry in licensing NPIs. Further, long-distance licensing of NPIs is possible. In Korean, however, there is no such asymmetry and NPIs obey strict locality constraints. To capture these parametric differences between the two languages, it was argued that the Spec of NegP in English is an A'-position, while the Spec of NegP in Korean is an A-position. In section 4.4, it was suggested that the distributional differences between the scrambled NPIs and the nonscrambled NPIs in Korean

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In (ii), the NPI moves to the Spec of NegP through the Spec of CP. This satisfies the NPI licensing condition in (54).

can be accounted for in terms of the proposed analysis by assuming that scrambling can be freely undone at LF. Section 4.5 provided several pieces of crucial evidence that long-distance licensing of NPIs obeys some constraints such as the CNPC, the Specificity condition, and the Wh-island constraint. This in turn suggests that a movement analysis of NPIs based on the checking theory is correct.

## CHAPTER 5 RECONSTRUCTION EFFECTS

### 5.1. Introduction

In this chapter, I concentrate on reconstruction effects with respect to binding theory, by arguing that NP-movement can be freely reconstructed. Section 5.2 deals with reconstruction and VP-fronting. It has been observed that fronted predicates can be reconstructed only to their D-structure, while fronted arguments can be reconstructed both to the Spec of CP of the embedded clause or to their D-structure position (Huang (1993)). To account for this distributional difference, following Huang (1993) and Mitchell (1993), I suggest that what is fronted in VP-fronting is not the bare VP, but the VoiceP (=voice Phrase). Further, I argue, following Ahn (1991), Huang (1993), and Mitchell (1993), that the fronted VoiceP contains the trace of the subject left by the movement, while the fronted argument does not contain this trace. Section 5.3 deals with the reconstruction possibilities with respect to binding theory and scope interpretation in psych-verb constructions. Following Belletti and Rizzi (1988, 1991), I argue that the peculiar binding effects in psych-verb constructions can be accounted for by saying that the theme NP is reconstructed to

its D-structure position. Further, it will be suggested that given assumptions made in syntax, peculiar binding effects of compounds involving psych-verbs can be explained, arguing for some interaction between morphology and syntax. In section 5.4, I suggest that NP-movement can be freely reconstructed at LF, since it does not establish a semantically significant operator and variable relation, which is in line with Saito (1989, 1992). Finally, I argue that scrambling, short-distance and long-distance, can be an instance of A-movement and that the so-called parasitic gap construction in Korean is analyzed as an instance of a binding relation via scrambling.

### 5.2. Reconstruction and VP-Fronting

The term 'reconstruction' was originally proposed by Chomsky (1976) to account for the following sentence involving wh-movement.

- (1) \*[Whose<sub>i</sub> mother]<sub>j</sub> does he<sub>i</sub> love t<sub>j</sub>?

The sentence in (1) exhibits strong crossover (SCO) effects and should be ruled out by the binding condition (C). However, in (1) the pronoun does not c-command the trace of the wh-phrase and therefore cannot bind it. On the other hand, if the phrase whose mother is reconstructed to its base-generated position, as Chomsky (1976) suggests, the pronoun he c-commands the trace of who as in (2):

- (2) a. For which  $x$ ,  $x$  a person, he loves  $x$ 's mother.  
 b. Who<sub>i</sub> does he love  $t_i$ 's mother?

Binding condition (C), under which an R-expression should be free, is violated, and therefore the example in (1) is correctly predicted to be ill-formed.

The fronted wh-phrases exhibit reconstruction effects with respect to binding condition (A):

- (3) a. Which pictures of himself did John like  $t$ ?  
 b. Which pictures of himself did John think Bill saw  $t$ ?  
 c. Which pictures of himself did John think Mary saw  $t$ ?  
 d. Which pictures of herself did John think Mary saw  $t$ ?  
 (Huang (1993:103))

(3a) is grammatical, although the anaphor himself is not bound by its antecedent John. (3b) is well-formed and ambiguous with respect to the interpretation of the anaphors; that is, himself can refer to either the matrix subject John or the embedded subject Bill. This is confirmed by the well-formedness of both (3c) and (3d). As Huang (1993) notes, the examples in (3) cannot be accounted for if binding theory applies only at D-structure. However, the binding facts can be explained by saying that the relevant phrases may be reconstructed and from which anaphors may be bound by the antecedent in accord with binding condition (A). If this is the case, the ambiguity of (3b) amounts to the claim that the sentence has two possible reconstruction sites, i.e., the Spec of the embedded CP or the D-structure object position, as illustrated in (4):

- (4) [Which pictures of himself]<sub>i</sub> did John think [t<sub>i</sub> [Bill saw t<sub>i</sub>]]

The anaphor himself can refer to either John or Bill depending on whether the relevant phrase is reconstructed to the Spec of CP of the embedded clause or to the object position.

On the other hand, VP-movement exhibits a narrower range of reconstruction possibilities than wh-movement (Huang (1993), Mitchell (1993)). Let us compare the following sentences:

- (5) a. Which pictures of himself did John think Bill  
saw t? (= (3b))  
b. Criticize himself, John thought Bill would not t.

The anaphor in (5a) can refer to either John or Bill. However, the anaphor contained in a fronted VP in (5b) is unambiguously bound by the embedded subject, but not by the matrix subject. This suggests that unlike wh-phrases, the fronted VP can undergo reconstruction only to its D-structure position, but not to the Spec of CP of the embedded clause.

Huang (1993) provides two possible solutions for the difference between VP-fronting and wh-movement with respect to reconstruction. One solution is that they involve two different kinds of A'-movement, i.e., wh-question is wh-movement, while VP-fronting is topicalization. Another solution is that the difference depends on whether a wh-phrase or non wh-phrase is moved. Neither solution, however, captures the correct generalization, as Huang notes. Huang



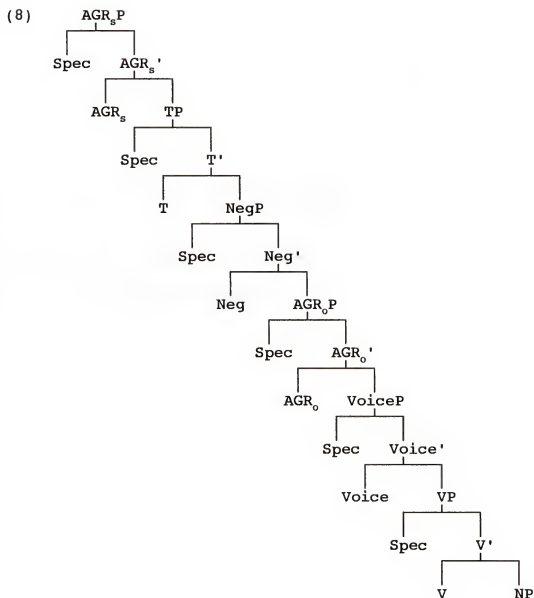


The examples we have come up with show that with respect to binding condition (A), predicate fronting exhibits a narrower range of reconstruction possibilities than argument fronting, as Huang notes. In other words, fronted predicates can be reconstructed only to their D-structure position, while fronted arguments can reconstruct to the Spec of CP of the embedded clause or to their D-structure position.<sup>1</sup>

An immediate question then arises as to why only fronted predicate phrases have these limited reconstruction possibilities. To account for this, let us first of all assume the following split INFL hypothesis and the VP-internal subject hypothesis (Chomsky (1992), Huang (1993), and Mitchell (1993)):

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<sup>1</sup> Huang (1993) further notes that with respect to the effects of binding condition (B) and (C), the same limit on fronted predicates is also found. Readers are referred to Huang for the discussion of this phenomenon.



Recall that a subject is base-generated in the Spec of VP at D-structure and moves up to the Spec of AGR<sub>s</sub>P through the Spec of VoiceP to satisfy the Case-checking requirement (Chomsky (1992)). As Mitchell (1993) suggests, I argue that in (8) what is VP-fronted is not the bare VP, but the VoiceP. Furthermore, following Ahn (1991), Huang (1993), and Mitchell

(1993), I argue that the fronted predicates, i.e., VoiceP, contain the trace of the subject left by the movement to the Spec of AGR<sub>s</sub>P, while the fronted arguments contain no such trace. If this is the case, the fronted anaphor within VoiceP must be bound within VoiceP and will consequently not be able to be coindexed with any outside elements. Hence, the examples of fronting predicates in (6b) and (7a-b) are represented as in (9a-c), respectively:

- (9) a. [<sub>VoiceP</sub> t<sub>i</sub> [<sub>VP</sub> criticize himself<sub>.i/j</sub>]]<sub>k</sub>, John<sub>i</sub> thought  
       Bill<sub>j</sub> would not t<sub>k</sub>.  
       b. [<sub>VoiceP</sub> t<sub>i</sub> [<sub>AP</sub> how proud of himself<sub>.i/j</sub>]]<sub>k</sub> does John<sub>i</sub> think  
       Bill<sub>j</sub> will be t<sub>k</sub>?  
       c. [<sub>VoiceP</sub> t<sub>i</sub> [<sub>NP</sub> a victim of himself<sub>.i/j</sub>]]<sub>k</sub>, John<sub>i</sub> thinks  
       Bill<sub>j</sub> will never be t<sub>k</sub>.

Recall that what is VP-fronted in (9) is not the VP, but the VoiceP. When a VP as in (9a), an AP as in (9b), or a predicate nominal as in (9c) is fronted, the trace of the subject in the VoiceP is also fronted with it. Hence, the fronted VoiceP itself constitutes a Complete Functional Complex (CFC) in the sense of Chomsky (1986a) where the anaphor himself must be bound, as Huang (1993) notes. Therefore, the fronted himself must be bound by the trace of Bill within VoiceP and cannot consequently be bound by any outside members. This in turn suggests that the anaphor himself in (9) can only refer to the embedded subject Bill.

On the other hand, the fronted NP in cases of topicalization such as (6a) and wh-movement such as (6c) does

not contain the trace of the subject. Thus, the anaphor himself can be bound by John when the fronted NP is reconstructed to the Spec of CP of the embedded clause or by Bill when the fronted NP is reconstructed to its D-structure position.

If the argument developed thus far is correct, we can account for the fact that binding requirements on an NP-trace may likewise be satisfied via reconstruction. Consider the following examples:

- (10) a. John<sub>i</sub> is likely t<sub>i</sub> to win.  
 b. How likely t<sub>i</sub> to win is John<sub>i</sub>?  
 c. How certain t<sub>i</sub> to win is John<sub>i</sub>?

The sentences in (10b-c) can be schematized as follows, respectively:

- (11) a. [<sub>VoiceP</sub> t'<sub>i</sub> [<sub>AP</sub> how likely [<sub>VP</sub> t<sub>i</sub> to win]]] is John<sub>i</sub>?  
 b. [<sub>VoiceP</sub> t'<sub>i</sub> [<sub>AP</sub> how certain [<sub>VP</sub> t<sub>i</sub> to win]]] is John<sub>i</sub>?

In (11) the trace t<sub>i</sub> is antecedent governed by the intermediate subject trace t'<sub>i</sub>. Furthermore, t'<sub>i</sub> is deleted at LF in accordance with the principle of Full Interpretation (Chomsky (1986a)). Therefore, the representations in (11) are allowed by the ECP.

### 5.3. Reconstruction and psych-verb constructions

#### 5.3.1. Reconstruction and Binding Condition (A)

Grimshaw (1990) proposes the following Universal Thematic Hierarchy in (12a) to claim that at some level of derivation

two argument NPs, i.e., an experiencer NP and a theme NP, are hierarchically positioned differently from their surface orders in the so-called psych-verb constructions as in (12b).

(12) a. The Universal Thematic Hierarchy

(Agent(Experiencer(Goal/Source/Location(Theme))))

b. The building frightened the tourists.

Theme	Experiencer
	(Grimshaw (1990:24-25))

In (12b), the theme NP the building is positioned higher than the experiencer NP the tourists, which is opposite with regard to the Thematic Hierarchy in (12a), where the theme NP is lower than the experiencer NP. According to Grimshaw, the most prominent  $\theta$ -role in an argument structure is assigned to the external argument and the remaining  $\theta$ -roles are realized inside the maximal projection of the verb. Let us consider the following Korean sentences:

(13) a. John-i Mary-lul koylop-hi-ess-ta  
           -Nom       -Acc annoy-Caus-Past-Dec

'John made Mary annoyed.'

b. Ku saken-i        John-lul koylop-hi-ess-ta  
    the accident-Nom    -Acc annoy-Caus-Past-Dec

'The accident made John annoyed.'

In (13), the first NPs are themes and the second experiencers. The Universal Thematic Hierarchy of  $\theta$ -roles in (12a) requires that in (13) NPs marked with the theme role, i.e., causer NPs, are base-generated in a hierarchically lower position than NPs

marked with the experiencer role, i.e., causee NPs. However, the theme NP moves to a higher position than the experiencer NP. This is the position of the external argument.

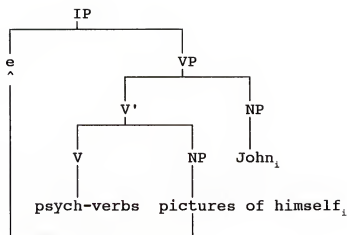
Peculiar binding facts observed by Belletti and Rizzi (henceforth; B&R, 1988, 1991) in Italian psych-verb constructions are the main motivation of movement of the theme NP from the lower position to the higher position. Note the following English examples:

- (14) a. Pictures of himself<sub>i</sub> worry John<sub>i</sub>.  
       b. These gossips about himself<sub>i</sub> worry John<sub>i</sub> more than anything else.
- (15) a. \*Pictures of himself<sub>i</sub> describe John<sub>i</sub>.  
       b. \*These gossips about himself<sub>i</sub> describe John<sub>i</sub> better than any official biography.

The sentences in (14) involve psych-verbs, while those in (15) involve nonpsych-verbs. The examples in (14) are problematic for the binding theory because the experiencer in object position can bind an anaphor contained within the subject, which is in apparent violation of the usual c-command requirement on the antecedent and anaphor relation.

To account for these peculiar binding effects, B&R (1988, 1991) propose the D-structure of psych-verbs as follows:

(16)



At S-structure, the theme NP, i.e., pictures of himself, moves to the Spec of IP for Case reasons, yielding the surface representation in (14a). At D-structure, however, the anaphor himself is bound by its antecedent John, satisfying binding condition (A) of the binding theory. According to B&R, NP-movement is involved in psych-verb constructions, suggesting that constructions of NP-movement exhibit an instance of A-movement reconstruction.

This is further supported in raising constructions, which are assumed to be examples of A-movement.

(17) a. Replicants of themselves<sub>i</sub> seemed to the boys<sub>i</sub>  
[t<sub>i</sub> to be ugly].

b. \*Replicants of themselves<sub>i</sub> promised the boys<sub>i</sub>  
[PRO to become ugly].

(B&R (1988:316))

Recall that (17a) is a psych-verb structure, while (17b) is a control structure. In (17a) where a psych-verb is involved, the anaphoric binding can be accounted for if the theme NP

containing the anaphor is reconstructed in its original position. The assumption that (17a) involves reconstruction to the D-structure position of the anaphor makes it possible to account for peculiar binding effects.

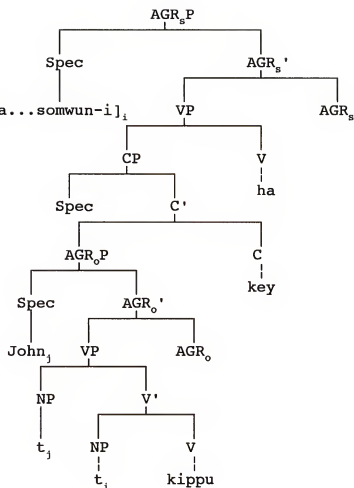
This peculiar type of anaphor binding is also observed in causative psych-verb constructions in Korean (Ahn (1990), Choe (1988), and Kim (1990)):

- (18) a. [<sub>NP</sub> Mary-ka caki<sub>i</sub>-lul salangha-n-ta-nun somwun-i]  
           -Nom self-Acc love-Pres-Dec-Comp rumor-Nom  
           [<sub>VP</sub> John<sub>i</sub>-ul kippu-key ha-ess-ta]  
           -Acc please-Caus do-Past-Dec  
           'The rumor that Mary loves himself<sub>i</sub> pleased John<sub>i</sub>.'
- b. [<sub>NP</sub> Selo<sub>i</sub>-uy salang-i] [<sub>VP</sub> [John-kwa Mary-lul]<sub>i</sub>]  
           each other-Gen love-Nom and -Acc  
           kippu-key ha-ess-ta]  
           please-Caus do-Past-Dec  
           'Each other's<sub>i</sub> love pleased [John and Mary]<sub>i</sub>.'

Assuming that anaphors in Korean must be bound by a c-commanding subject, the above sentences clearly pose a problem to the core cases of anaphor binding. However, if we assume that the phrases containing the anaphors are reconstructed to their original position, the peculiar anaphor binding in Korean is easily accounted for, as I shall now show. The example in (18a) may be represented as follows (irrelevant details are omitted):



(19)



As seen in (19), the NP containing caki 'self' is base-generated in a position lower than the experiencer NP John at D-structure, so that the reflexive is licensed at that level. The NP containing self has moved to the Spec of AGR<sub>s</sub>P of the matrix clause from its original position and John has moved to the Spec of AGR<sub>o</sub>P from the Spec of VP, in order to check nominative and accusative Case, respectively.

### 5.3.2. Reconstruction and Compound

Next, let us consider the self-compound. It has been suggested in Baker (1988), Lieber (1992), Miller (1993), Sproat (1985), and Walinska de Hackbeil (1986), among others, that the binding theory applies to morphological structures in precisely the same way as it applies to syntax. Sproat (1985) argues that in cases such as self-destruction, self-admirer, and self-explanatory, self is an anaphor and therefore is subject to condition (A) of the binding theory. Specifically, Sproat claims that self is syntactically bound, but not lexically bound. The following examples confirm his argument (Sproat (1985:295-296)):

- (20) a. \*John's<sub>i</sub> [<sub>NP</sub> self<sub>i</sub>-admirer] is late today.  
 b. \*John's<sub>i</sub> [<sub>NP</sub> admirer of himself<sub>i</sub>] is late today.  
 c. \*Frank's<sub>i</sub> [<sub>NP</sub> self<sub>i</sub>-redeemer] is a fool.  
 d. \*Frank's<sub>i</sub> [<sub>NP</sub> redeemer of himself<sub>i</sub>] is a fool.  
 e. \*Charlie's<sub>i</sub> [<sub>NP</sub> self<sub>i</sub>-flagellator] is enjoying himself.  
 f. \*Charlie's<sub>i</sub> [<sub>NP</sub> flagellator of himself<sub>i</sub>] is enjoying himself.

According to Sproat, the local domain is the entire NP and the antecedent is -er.<sup>2</sup> The examples in (20) are then correctly predicted to be ruled out by binding condition (A), because self, like himself, is an anaphor which cannot be bound in its local domain, viz., NP.

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<sup>2</sup> Sproat notes that the suffix -er has all of the properties, i.e., it c-commands the anaphor and identifies its  $\theta$ -role of the verb, so that the local domain is the entire NP.

A piece of supporting evidence that self in its compounds is subject to binding condition (A) of the binding theory in the same way that anaphors apply to syntax comes from the following sentence (Sproat (1985:305)):

- (21) \*The Museum of Modern Art's self-portrait by Picasso is hanging on display with the other cubist paintings.

In (21) there is no c-commanding antecedent to bind self in nonagent-nominal self-compound, so that (21) is ungrammatical. Based on these phenomena, Sproat concludes that self is not lexically bound, but rather is syntactically bound.

The reasoning suggested so far can be extended to Korean as well, as argued in Kwon (1993). Consider the following examples:

- (22) a. John-uy<sub>i</sub> [<sub>NP</sub> caki<sub>i</sub> ayho]-ka Mary-lul silheha-ess-ta  
           -Gen self admiration-Nom -Acc dislike-Past-Dec  
           `John's<sub>i</sub> self<sub>i</sub> admiration disliked Mary.'
- b. \*John-uy<sub>i</sub> [<sub>NP</sub> caki<sub>i</sub> ayhoka]-ka Mary-lul silheha-ess-ta  
           -Gen self admirer -Nom -Acc dislike-Past-Dec  
           `\*John's<sub>i</sub> self<sub>i</sub> admirer disliked Mary.'
- c. John-un<sub>i</sub> [<sub>NP</sub> Mary-uy<sub>j</sub> caki<sub>i,j</sub> mangsang] eytayhay  
           -Top -Gen self<sub>i,j</sub> fancy about  
           malha-ess-ta  
           talk-Past-Dec  
           `John<sub>i</sub> talked about Mary's<sub>j</sub> self<sub>i,j</sub> fancy.'

In nonagent-nominal self-compounds like (22a) caki 'self' can be bound by the subject NP, satisfying binding condition (A). On the other hand, notice that in (22b) the local domain of

caki 'self' is an NP. Since caki is coindexed with John, a violation of binding condition is induced. Caki in (22c) is coindexed with an antecedent in its local domain, so that caki cannot coindex with John which is a matrix subject NP. Therefore, binding theory also correctly predicts the well-formedness of caki-compounds in Korean as well.

Next, let us consider some peculiar properties of psych-verb constructions with respect to binding theory.

- (23) a. [<sub>NP</sub> caki<sub>i</sub>-haktay] -ka John<sub>i</sub>-ul sulphukey ha-ess-ta  
           self abuse -Nom               -Acc sad do-Past-Dec  
           'Self<sub>i</sub>-abuse made John<sub>i</sub> sad.'
- b. [<sub>NP</sub> Mary-ka caki<sub>i</sub>-salang-ul ha-n-ta-nun somwun-i]  
           -Nom self love-Acc do-Pres-Dec-Rel rumor-Nom  
           John<sub>i</sub>-ul kippukey ha-ess-ta  
           -Acc please do-Past-Dec  
           'The rumor that Mary loves self<sub>i</sub> pleased John<sub>i</sub>.'

The grammaticality of (23) would be surprising in the sense that caki in caki 'self'-compounds is not syntactically bound by its antecedent. That is, the experiencer NP, John, in object position can bind caki contained within nonagent-nominal compounds, violating the usual c-command requirement on the antecedent-anaphor relation. However, if we assume that a subject NP containing caki in compounds in (23) is base-generated in a lower position than the experiencer NP, John, we can explain the grammaticality of (23), since binding condition (A) applies at D-structure, satisfying binding condition (A). Therefore, given assumptions made in syntax,

peculiar binding effects of compounds involving psych-verbs can be easily explained. The thrust of our argument is that word formation is not a separate component from syntax, but rather the same grammatical principles and parameters can account for both above and below word levels, as Baker (1988), Lieber (1992), Miller (1993), and Sproat (1985) argue.<sup>3</sup>

### 5.3.3. Reconstruction and Scope Interpretation

Aoun and Li (1989b) observe that Chinese actives are unambiguous, while their passives are ambiguous:

- (24) a. Meigeren dou xihuan yige nuren  
 everyone all like one woman  
 'Everyone loves a woman.'
- b. Meige ren dou bei yige nuren zhuazou le  
 every man all by one woman arrested  
 'Everyone was arrested by a woman.'  
 (Aoun and Li (1989b:141-142))

According to Aoun and Li, in (24a) the subject quantifier meigeren has wide scope over the object quantifier yige nuren, while in (24b) the former has wide or narrow scope over the

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<sup>3</sup> See the references cited above for the argument that a number of syntactic principles such as Theta theory, the Projection Principle, Case theory, binding theory, and X'-theory, etc, play a crucial role in determining the well-formedness of morphological structures.

latter.<sup>4</sup> To account for the semantic ambiguity of (24b), Aoun and Li propose the following two principles:

(25) a. The Minimal Binding Requirement

Variables must be bound by the most local potential A'-binder.

b. The Scope Principle

A quantifier A has scope over a quantifier B in case A c-commands a member of the chain containing B.  
(Aoun and Li (1989b:141))

The Minimal Binding Requirement constrains the possible LF representation and requires that every quantifier be adjoined to the minimal VP or TP. Hence, the LF representations of (24a-b) look like (26a-b), respectively:

- (26) a. [<sub>TP</sub> meigeren<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> [<sub>VP</sub> yige nuren<sub>j</sub> [<sub>VP</sub> dou xihuan t<sub>j</sub>]]]]  
 b. [<sub>TP</sub> meigeren<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> [<sub>VP</sub> yige nuren<sub>j</sub> [<sub>VP</sub> dou bei t<sub>j</sub> [zhuazou le t<sub>i</sub>]]]]]]

Under the Scope Principle, the subject quantifier in (26a) should invariably have wide scope over the object quantifier.<sup>5</sup>

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<sup>4</sup> As Ahn (1990), Kim and Larson (1989), and Suh (1990) have observed, Korean actives are unambiguous, while their passive counterparts are ambiguous, just as in Chinese.

<sup>5</sup> Alternatively, the unambiguity of active sentences such as (24a) can be accounted for by Hoji's (1985) LF-filter:

- (i) An LF-Filter (Hoji (1985:248))  
 AT LF \*QP<sub>i</sub> QP<sub>j</sub> t<sub>j</sub> t<sub>i</sub> where each member c-commands the member to its right.

The LF condition in (i) states that the c-command relation between the two QPs cannot be reversed through the application of movement.

On the other hand, the Scope Principle predicts the ambiguity of passive sentences such as (26b). That is, the subject quantifier has wide scope over the object quantifier, since the former c-commands the latter. Further, the subject quantifier has narrow scope over the object quantifier, because the latter c-commands the trace of the former. Notice that the only structural difference between (26a) and (26b) is the existence of an NP-trace in (26b). This suggests that the NP-trace may play a crucial role in determining scopes.

Kim and Larson (henceforth; K&L, 1989) and May (1985) observe that there is a subject and object asymmetry in the interpretation of the following sentences (K&L (1989:681)):

- (27) a. Who bought everything? (unambiguous)
- b. What did everyone buy? (ambiguous)
- (28) a. Who talked to everyone? (unambiguous)
- b. Who did everyone talk to? (ambiguous)

Notice that in sentences (27a) and (28a), a wh-phrase is in subject position and a quantifier in object position. According to K&L (1989) and May (1985), those sentences have only one reading, where who has wide scope over the quantifier phrase. On the other hand, (27b) and (28b), where a quantifier NP is in subject position and a wh-trace in object position, have two readings depending on whether the former or the latter has wide scope over the other.

Interestingly enough, K&L note that there is a peculiarity with respect to scope interpretation in psych-verb constructions, as shown below (K&L (1989:682)):

- (29) a. Who does everything worry? (ambiguous)  
       b. What worries everyone? (unambiguous)
- (30) a. Who does everyone excite? (ambiguous)  
       b. Who excites everyone? (unambiguous)

Unlike (27-28), the examples in (29a) and (30a) are ambiguous, while the examples in (29b) and (30b) are unambiguous.

As Ahn (1990), K&L (1989), and Suh (1990) have observed, the following Korean sentences are ambiguous, despite the fact that surface c-command relations determine the interpretation of quantifier scope.<sup>6</sup>

- (31) a. mwuenka-ka      nwukwu-eykey-na hwuhoyesulep-ta  
          something-Nom everyone-Dat      be regrettable-Dec
- a. 'Everyone regrets something or other.'  
       b. 'There is something that everyone regrets.'

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<sup>6</sup> The following predicates violate the surface c-command relation in the interpretation of the quantifier scope.

<u>coh-</u>	'be good'	<u>koylop-</u>	'be troubled'
<u>pwulep-</u>	'be envious'	<u>twulyep-</u>	'be fearful'
<u>hwuhoyesulep-</u>	'be regrettable'	<u>calangsulep-</u>	'be proud of'
<u>changphisulep-</u>	'be ashamed of'	<u>kekcegsulep-</u>	'be worried'
<u>pulmansulep-</u>	'dissatisfy'	<u>philyoha-</u>	'need'
<u>pwucokha-</u>	'lack'		

According to K&L, the corresponding Japanese example, which is attributed to Susumu Kuno, is also ambiguous.

- (i) Dareka-ga    dare-ni-mo    hitsuyoo-da  
     someone-Nom    everyone-Dat    need-is

'Everyone needs someone.'



- b. *nwukwunka/mwuenka-ka nwukwu-eykey-na philyoha-ta*  
 someone/something-Nom everyone-Dat need-Dec
- a. 'Everyone needs someone/something or other.'  
 b. 'There is someone/something that everyone needs.'  
 (Ahn (1990:210), K&L (1989:686), and Suh  
 (1990:97))

Furthermore, the following sentence involving psych-verb also shows a peculiar property with respect to scope interpretation (Ahn (1990:226)):

- (32) *ipen senke-eyse-nun caki pise-wa-uy*  
 this election-in-Top self secretary-with-Gen
- sukhayntul hana-ka motun hwupo-lul koylop-hi-ess-ta*  
 scandal one-Nom all candidate-Acc annoy-Caus-Past-Dec
- 'In this election, one scandal with his own secretary annoyed all the candidates.'

According to Ahn (1990), the sentence in (32) is ambiguous, i.e., even if the object quantifier does not c-command the subject quantifier, the former may have wide scope over the latter.

Going back to (31a), I assume, with Ahn (1990), B&R (1988, 1991), K&L (1989), Suh (1990), among others, that the subject quantifier *mwuenka-ka* 'something-Nom' is base-generated at a position lower than the object quantifier *nwukwu-eykey-na* 'everyone-Dat' at D-structure. However, the subject quantifier moves to the matrix subject position at S-structure. Suppose that the object quantifier attaches to the VP via quantifier raising (QR) and that the subject quantifier undergoes quantifier lowering to VP, in that order. Then, the

Scope Principle in (25b) produces ambiguity. Therefore, if we assume that the subject quantifier is reconstructed to its original position, we can account for the extraordinary scope interpretation of the quantifier in psych-verb constructions such as (31) and (32).

#### 5.4. LF Reconstruction Effects of Scrambling

##### 5.4.1. Reconstruction and Scrambling

Saito (1989, 1992) argues that scrambling in Japanese can be freely undone at LF since it does not establish a semantically significant operator and variable relation. Topicalization and wh-movement in English, on the other hand, are semantically significant. His argument is based on the hypothesis that the proper binding condition, which requires that traces be bound (Fiengo (1977)), cannot be satisfied in terms of chain binding.<sup>7</sup> Consider the following sentences from Saito (1989:186):

- (33) a. [Which picture of himself<sub>i</sub>]<sub>j</sub> does John<sub>i</sub> like t<sub>j</sub> best?  
       b. Himself<sub>i</sub>, John<sub>i</sub> loves t<sub>i</sub>.

The reflexive himself in (33) is not bound, yet the examples in (33) are acceptable. In (33), however, John chain binds

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<sup>7</sup> The definition of chain binding, which is attributed to Barss (1986), is as follows:

X chain binds Y iff X and Y are coindexed, and

- (i) X c-commands Y, or
  - (ii) X c-commands a trace of Z, where Z=Y or Z contains Y.
- (Saito (1989:186))

himself, since John and himself are coindexed and the former c-commands the trace of the latter. Hence, if anaphors need not be bound as long as they are chain bound, as Barss (1986) argues, then the grammaticality of (33) is predicted. On the other hand, Saito (1989) argues that the proper binding condition cannot be satisfied in terms of chain binding, as shown below:

- (34) a. ??Who<sub>i</sub> do you wonder [which picture of t<sub>i</sub>]<sub>j</sub> John  
likes t<sub>j</sub>?  
b. \*[Which picture of t<sub>i</sub>]<sub>j</sub> do you wonder who<sub>i</sub> John  
likes t<sub>j</sub>? (Saito (1989:187))

In (34a), a weak violation of Subadjacency is induced, making the sentence marginal at best. If the proper binding condition may be satisfied by virtue of chain binding, (34b) is wrongly predicted to be grammatical because the trace t<sub>i</sub> is chain bound by who<sub>i</sub> in the same way that the anaphor himself is chain bound by John in (33). Hence, Saito draws the conclusion that the proper binding condition cannot be satisfied in terms of chain binding.

Based on the fact that the proper binding condition cannot be satisfied through chain binding, Saito (1989) argues that scrambling can be freely undone at LF. Consider the following Korean examples<sup>8</sup>:

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<sup>8</sup> The sentences in (35) are originally from Saito (1989:190). However, I use Korean examples, which are similar to Japanese ones.

- (35) a. \*[Mary-ka  $t_i$  ilk-ess-ta-ko]<sub>j</sub> [ce chayk-ul  
 -Nom read-Past-Dec-Comp that book-Acc  
 [John-i  $t_j$  malha-ess-ta]]  
 -Nom say-Past-Dec  
 '[That Mary read  $t_i$ ]<sub>j</sub>, that book<sub>i</sub>, John said  $t_j$ .'
- b. \*[Mary-ka  $t_i$  sal-ess-ta-ko]<sub>j</sub> [ce maul-ey<sub>i</sub>  
 -Nom live-Past-Dec-Comp that village-in  
 [John-i  $t_j$  sayngkakha-ess-ta]]  
 -Nom think-Past-Dec  
 '[That Mary lived  $t_i$ ]<sub>j</sub>, in that village<sub>i</sub>, John  
 thought  $t_j$ .'

In (35a), the embedded object is scrambled to sentence-initial position, and then the embedded clause is itself scrambled to the matrix clause. Likewise, in (35b), the embedded PP is scrambled to sentence-initial position, and then the embedded clause moves to the matrix clause. The sentence in (35a), for example, is ruled out by the proper binding condition since the trace  $t_i$  is not bound. Recall that the trace  $t_i$  is chain bound by ce chayk-ul 'that book', because the latter c-commands the trace of the scrambled phrase. Hence, as Saito notes, the ungrammaticality of (35a-b) also suggests that the proper binding condition may not be satisfied by means of chain binding. So far, we have discussed that, in Korean, traces created by scrambling are subject to the proper binding condition.

Saito (1989, 1992) further argues that traces created by LF wh-movement are also constrained by the proper binding condition. Observe the following Korean examples:

- (36) a. John-i Mary-eykey [[nwukwu-ka olnun] ci] mwul-ess-ta  
 -Nom -Dat who-Nom come -Q ask-Past-Dec  
 'John asked Mary [ Q [who is coming]].'
- b. \*John-i nwukwu-eykey [[Mary-ka olnun] ci] mwul-ess-ta  
 -Nom who -Dat -Nom come -Q ask-Past-Dec  
 'John asked who [ Q [Mary is coming]].'

In Korean, just like in Japanese (Saito (1989)), an embedded Comp is [+wh] if and only if it contains the Q-morpheme. Hence, in (36), the wh-phrases, which are in the matrix clause, must move to the most deeply embedded Comp at LF and so the LF representations of (36a-b) look like (37a-b), respectively:

- (37) a. [John-i Mary-eykey [[t<sub>i</sub> olnun] nwukwu-ka<sub>i</sub>] mwul-ess-ta]  
 b. \*[John-i t<sub>i</sub> [[Mary-ka olnun] nwukwu-eykey<sub>i</sub>]  
 mwul-ess-ta]

In (37a) the trace t<sub>i</sub> is bound by nwukwu-ka in Comp, while in (37b) it is not. Consequently, (37b) is ruled out by the proper binding condition at LF.

Now, let us consider cases where a wh-phrase is scrambled. Relevant examples are drawn from Ahn (1990:174-175):

- (38) a. [Mary-ka [[John-i etten chayk-ul tosekwon-eyse  
 -Nom -Nom which book-Acc library-from  
 pillye o-ess-nun ci] al-ko siph-un] sasil]  
 check out-past-Comp know-Comp wants fact  
 'The fact that Mary wants to know which book John  
 checked out from the library.'

b. ?[etten chayk-ul<sub>i</sub> [Mary-ka [[John-i t<sub>i</sub> tosekwan-eyse  
       which book-Acc               -Nom               -Nom       library-from

pillye o-ess]-nun ci] al-ko       siph-un] sasil]  
 check out-past-Comp know-Comp wants fact

'Which book<sub>i</sub>, the fact Mary wants to know t<sub>i</sub> John  
 checked out from the library.'

(38b) is derived from (38a) by scrambling the wh-phrase etten chayk-ul 'which book' to sentence-initial position, which is outside the c-command domain of the embedded clause. At LF, however, the scrambled wh-phrase in (38b) moves back to the Spec of CP of the embedded clause. Therefore, the sentence in (38b) involves both scrambling and LF wh-movement. Suppose that the wh-phrase moves to the Spec of CP at LF, leaving behind a trace. Then, the trace is not properly bound and hence the sentence in (38b) is wrongly predicted to be ungrammatical due to the proper binding condition. This, in turn, implies that the wh-phrase in (38b) need not leave a trace behind when it moves to the Spec of CP of the embedded clause at LF, as Saito suggests.<sup>9</sup> Therefore, the grammaticality of (38b) suggests that no trace is left behind after reconstruction; otherwise this would violate the proper binding condition. Hence, as Saito notes, scrambling need not be represented at all at LF, since the LF representation of (38b) will be identical to that of (38a). Based on this fact,

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<sup>9</sup> According to Lasnik and Saito (1984), movement can but does not necessarily create a trace unless the trace is required by an independent principle such as the Projection Principle.

Saito argues that scrambling can be freely reconstructed at LF, since it is semantically vacuous. If scrambling phrases can freely move downward at LF without leaving a trace, as E.-J. Lee (1992) and Saito (1989, 1992) note, then the principle of Full Interpretation does not prevent them from being reconstructed.

Deprez (1989) further provides several pieces of evidence that reconstruction effects can be tested in French with the construction of en-cliticization. Consider the following paradigm (Deprez (1989:165-166)):

- (39) a. Le premier chapitre en a été révisé plusieurs fois.  
The first chapter of it was revised several times.
- b. La vitre arrière en a été cassée.  
The rear window of it was broken.
- c. Le dernier exercice en a été corrigé avec soin.  
The last exercise of it was correct carefully.
- d. Les premières épreuves en ont été relues  
The first prints of it were proofread  
superficiellement.  
superficially.
- (40) a. \*quel chapitre crois-tu que Jean en a révisé  
Which chapter do you believe that John of it revised  
plusieurs fois.  
several times.
- b. \*quelle vitre as-tu dit que les voleurs en ont  
cassé.  
Which window did you say that of it were broken.
- c. \*quel exercice crois-tu que Pierre en a corrigé  
Which exercise do you believe that Peter of it  
avec soin.  
corrected with care.

- d. \*quelles épreuves crois-tu que Mirie en a relu  
 which printing do you believe that Mary of it read  
 superficiallement.  
 superficially.

In (39), the object NP which contains the trace of the extracted clitic moves to the Spec of TP through a passive which is an instance of NP-movement. In (40), on the other hand, wh-phrases move to the Spec of CP from the embedded clause. Then the schematized structure of (39) and (40) is (41) and (42), respectively:

(41) [<sub>TP</sub> [<sub>NP</sub> N t<sub>i</sub> ]<sub>j</sub> en<sub>i</sub> [<sub>VP</sub> V t<sub>j</sub> ]]

(42) [<sub>CP</sub> [<sub>NP+WH</sub> N t<sub>i</sub> ]<sub>j</sub> ... [<sub>TP</sub> NP en<sub>i</sub> [<sub>VP</sub> V t<sub>j</sub> ]]]

In (41-42), the trace t<sub>i</sub> is chain bound by en<sub>i</sub> since the latter c-commands the trace of the moved phrases, which contain t<sub>i</sub>. On the other hand, the trace t<sub>i</sub> is clearly not bound by en<sub>i</sub>, which results in a violation of the proper binding condition. The only difference between (41) and (42) is the position of the constituent containing the trace and the type of chain created by movement. However, the structure in (41) is allowed, whereas the structure in (42) is not.

To account for the grammatical contrast above, Deprez (1989) argues that wh-movement and NP-movement differ with respect to reconstruction effects. That is, reconstruction of wh-movement does not make the proper binding of a trace possible, hence the ungrammaticality of (42). On the other



hand, NP-movement can be reconstructed at LF, in which case the LF representation of (41) looks like (43):

(43) [<sub>TP</sub> en<sub>i</sub> [<sub>VP</sub> V [<sub>NP</sub> N t<sub>i</sub> ]<sub>j</sub> ]]

In (43), the trace t<sub>i</sub> is bound by en<sub>i</sub>, satisfying the proper binding condition and therefore the sentences in (39) are grammatical. Based on these facts, Deprez argues that NP-movement can be reconstructed at LF.<sup>10</sup> Therefore, Deprez' argument provides a piece of crucial evidence that NP-movement can be reconstructed at LF.

#### 5.4.2. Reconstruction and Weak Crossover

It has been argued that the ungrammaticality of the sentences in (44b-c) is usually attributed to the so-called WCO effects.

- (44) a. His<sub>i</sub> mother loves John<sub>i</sub>.  
 b. \*Who<sub>i</sub> does his<sub>i</sub> mother love t<sub>i</sub>?  
 c. \*His<sub>i</sub> mother loves everyone<sub>i</sub>.

Although everyone in (44c) does not move in syntax, unlike the wh-phrase in (44b), everyone undergoes LF movement. Hence, the LF-representations of (44b-c) can be schematized in (45):

(45) \*[Operator<sub>i</sub> [<sub>TP</sub> ... [<sub>NP</sub> pronoun<sub>i</sub> ] ... t<sub>i</sub> ... ]]

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<sup>10</sup> Deprez claims that the similarity between scrambling and A-chain such as NP-movement provides an argument that scrambling is an instance of A-movement.

In (45), neither the pronoun his nor the trace of the wh-phrase, i.e., a variable, c-commands the other. Thus, the examples in (44b-c) are ruled out due to WCO effects.<sup>11</sup> As was discussed in chapter 4, Korean also exhibits WCO effects (Cho (1991), Joo (1989), Lee (1991), Yoon (1991), among others), as in (46):

- (46) a. ku<sub>i</sub>-uy emeni-ka John<sub>i</sub>-ul salangha-n-ta  
           his-Gen mother-Nom       -Acc love-Pres-Dec  
           `His<sub>i</sub> mother loves John<sub>i</sub>.'

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<sup>11</sup> Chomsky (1976) originally proposes the Leftness condition in (i) to account for WCO effects.

(i) The Leftness Condition

A variable can not be an antecedent of a pronoun to its left.

Koopman and Sportiche (1982), on the other hand, propose the Bijection Principle to deal with WCO effects.

(ii) Bijection Principle

There is a bijective correspondence between variables and A'-position

- a. An operator binds one and only one A-variable.
- b. A variable is locally bound by one and only one operator. (Koopman and Sportiche (1982:145-146))

According to Koopman and Sportiche, a variable is any element that is locally A'-bound by an operator. Finally, Safir (1984) points out a problem for the Bijection Principle in parasitic gap constructions and modifies it to (iii) to explain the contrast in parasitic constructions.

(iii) Parallelism Constraint on Operator Binding (PCOB)

If 0 is an operator and x is a variable bound by 0, then for any y, y a variable bound by 0, x and y are [α pronominal]. (Safir (1984:607))

- b. \* $ku_i$ -uy emeni-ka nwukwu $_i$ -lul salangha-ni?  
 his-Gen mother-Nom who-Acc love-Q  
 `\*Who $_i$  does his $_i$  mother love  $t_i$ ?'
- c. \* $ku_i$ -uy emeni-ka nwukwuna $_i$ -lul salangha-n-ta  
 his-Gen mother-Nom everyone-Acc love-Pres-Dec  
 `\*His $_i$  mother loves everyone $_i$ .'

As in English, if we assume that QPs such as nwukwu 'who' and nwukwuna 'everyone' undergo movement at LF, the ungrammaticality of sentences in (46b-c) can be attributed to WCO effects. This in turn indicates that wh-movement and QR induce WCO effects in Korean.

Interestingly enough, when wh-phrases or QPs are scrambled to sentence-initial position, the expected WCO effects do not occur, as illustrated in (47):

- (47) a. nwukwu-lul $_i$  [ $ku$ -uy $_i$  emeni-ka  $t_i$  salangha-ni?]  
 who -Acc he-Gen mother-Nom love-Q  
 `\*Who $_i$  does his $_i$  mother love  $t_i$ ?'
- b. nwukwuna-lul $_i$  [ $ku$ -uy $_i$  emeni-ka  $t_i$  salangha-n-ta]  
 everyone-Acc he-Gen mother-Nom love-Pres-Dec  
 `Everyone $_i$ , his $_i$  mother love  $t_i$ .'

Recall that in (46b-c), WCO effects are induced in wh-movement and QR, which take place at LF. However, as shown in (47), the scrambling of the wh-phrase or QP does not induce WCO effects in Korean. Under the assumption that scrambling as A'-movement leaves behind a variable, cases like (47) are wrongly predicted to be ungrammatical, since the A'-bound

trace  $t_i$  as a variable does not c-command the coindexed pronoun, inducing WCO effects.

On the other hand, as many linguists such as Deprez (1989), Mahajan (1989, 1990b)<sup>12</sup>, and Yoon (1991) have noted, if we assume that short-distance scrambling can be an instance of A-movement, the trace  $t_i$  left by scrambling as an instance of A-movement is an NP-trace. In that case, it is immune to WCO effects. Based on the WCO effects, it is argued that short-distance scrambling in Korean can be an instance of A-movement.

Next, let us consider the following example, where a wh-phrase is long-distance scrambled:

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<sup>12</sup> Mahajan (1989, 1990b) proposes that short distance scrambling in Hindi can be an instance of A-movement in the sense that the scrambling of wh-phrases remedies WCO effects.

- (i) \*uskii<sub>i</sub> bahin kis-ko<sub>i</sub> pyaar kartii hE?  
his sister-Sub who-Do loves

'Who<sub>i</sub> does her<sub>i</sub> sister love  $t_i$ ?''

- (ii) kis-ko<sub>i</sub> uskii<sub>i</sub> bahin pyaar kartii hE?  
who-Do his sister-Sub loves

'Who<sub>i</sub> does her<sub>i</sub> sister love  $t_i$ ?''

As seen (i), the wh-phrase in situ shows WCO effects in Hindi. However, when the wh-phrase is scrambled to sentence-initial position, WCO effects do not occur as shown in (ii).

- (48) \*ku-uy<sub>i</sub> emeni-ka [John-i nwukwu-lul<sub>i</sub> salangha-n-ta-ko]  
 he-Gen mother-Nom -Nom who-Acc love-Pres-Dec-Comp

mit-ni?  
 believe-Q

`Who<sub>i</sub> does his<sub>i</sub> mother believe that John loves t<sub>i</sub>?'

In (48), the wh-phrase nwukwu-lul 'who' staying in the embedded clause undergoes movement to the Spec of CP of the matrix clause at LF. Then, (48) is a typical WCO construction, since at LF, the trace left by the movement of the wh-phrase does not c-command the coindexed pronoun.

On the other hand, if the wh-phrase in the embedded clause is scrambled to sentence-initial position, then WCO effects are not induced. The following example confirms this fact (Cho (1991), Lee (1991), and Yoon (1991)):

- (49) nwukwu-lul<sub>i</sub> [ku-uy<sub>i</sub> emeni-ka [John-i t<sub>i</sub> salangha-n-ta-ko]  
 who-Acc he-Gen mother-Nom -Nom love-Pres-Dec-Comp

mit-ni?  
 believe-Q

`Who<sub>i</sub> does his<sub>i</sub> mother believe that John loves t<sub>i</sub>?'

Notice that the sentence in (49) is derived from (48) by scrambling the embedded object nwukwu-lul 'who' to sentence-initial position. If, in cases such as (49), long-distance scrambling as A'-movement leaves a variable, as Mahajan (1989, 1990b) suggests, then the A'-bound trace t<sub>i</sub> as a variable does not c-command the coindexed pronoun, which induces WCO effects. Therefore, cases involving long-distance scrambling

such as (49) would be wrongly predicted to be ungrammatical under that hypothesis.<sup>13</sup>

On the other hand, if we assume that the trace  $t_i$  created by scrambling as an instance of A-movement is an NP-trace, then it is immune to WCO effects. Consequently, the example in (49) is correctly predicted to be acceptable. In sum, we may conclude, on the basis of our observation, that both short- and long-distance scrambling can be instances of A-movement (Park (1991)).

In the preceding section, we demonstrated that traces created by scrambling and LF wh-movement are subject to the proper binding condition. Keeping this in mind, let us reconsider the above example in (49), where a wh-phrase is scrambled. Recall that the wh-phrase nwukwu-lul is scrambled out of the c-command domain of the embedded clause. Hence, at LF, the scrambled wh-phrase in (49) would move down to the Spec of CP of the embedded clause in order to take scope there. Therefore, both scrambling and LF wh-movement would be involved in (49). Suppose that the wh-phrase moves to the Spec of CP at LF, leaving behind a trace. Then, the trace is not properly bound and hence the sentence in (49) is incorrectly predicted to be ungrammatical due to the proper binding condition. The grammaticality of (49) further

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<sup>13</sup> Cho (1991) argues that scrambling, as movement to a nonoperator A'-position, leaves behind not a variable but a null epithet in the sense of Lasnik and Stowell (1991), and thus it does not induce WCO effects.

confirms that no trace would be left behind when it moves back to the Spec of CP of the embedded clause at LF. Otherwise this would violate the proper binding condition. The trace created by scrambling is an NP-trace so that WCO effects are not induced at all in this case. Therefore, the grammaticality of (49), where a wh-phrase is long-distance scrambled, further suggests that scrambling can be freely reconstructed at LF, since it does not establish any semantically significant operator and variable relation (Saito (1989, 1992)).

#### 5.4.3. Parasitic Gaps or Empty Pronouns?

Hoji (1985) and Saito (1985) argue that sentences such as (50b) with a scrambled wh-phrase binding two gaps are analyzed as examples of the parasitic gap (PG) constructions, forcing one to the conclusion that scrambling is an instance of A'-movement.

- (50) a. \*John-i [<sub>PP</sub>Mary-ka e<sub>i</sub> ilki ceney] [etten chayk-ul<sub>i</sub>  
                   -Nom           -Nom       read before   which book-Acc

ilk-ess]-ni?  
 read-Past-Q

'Which book did John read before Mary read e<sub>i</sub>?'

- b. etten chayk-ul<sub>i</sub> [John-i [<sub>PP</sub>Mary-ka e<sub>i</sub> ilki ceney]  
      which book-Acc           -Nom           -Nom       read before

[t<sub>i</sub> ilk-ess]-ni]?  
 read-Past-Q

'Which book<sub>i</sub> did John read t<sub>i</sub> before Mary read e<sub>i</sub>?'

In (50a), the wh-phrase etten chayk-ul 'which book' in situ does not c-command the coindexed empty category, resulting in a violation of the WCO. On the other hand, (50b), where the wh-phrase is scrambled to sentence-initial position, becomes acceptable. If scrambling is an A'-movement and the empty category in (50b) is an empty pronoun, the example should exhibit WCO effects. However, if the wh-phrase in this example is in an A'-position, then the empty category need not be an empty pronoun, but can be a PG. Therefore, the sentence in (50b) is correctly predicted to be grammatical, as Saito (1992) points out.

However, as Cho (1991), Lee (1991), Saito (1992), Yoshimura (1990), among others, have pointed out, the analysis that was outlined above by Hoji (1985) and Saito (1985) has one major problem in terms of Subjacency. Chomsky (1986a) notes that the distribution of PGs is sensitive to Subjacency. That is, PGs are traces created by the movement of a null operator (Op) and are constrained by Subjacency. Therefore, if the empty categories in (50b) must be PGs, they are constrained by Subjacency. The leading idea behind Chomsky (1986a) is that a PG cannot occur in a Subjacency island within the adjunct. As seen in the following examples, however, the gaps in question do not obey Subjacency, whereas scrambling out of an island obeys Subjacency.



- (51) a. ?\*etten chayk-ul<sub>i</sub> [John-i [<sub>NP</sub> t<sub>i</sub> ilk-un salam-ul]  
           which book-Acc               -Nom               read-Rel person-Acc

          manna-ess-ni]?  
           meet-Past-Q

          'Which book<sub>i</sub> did John meet the person who read t<sub>i</sub>?'

- b. etten chayk-ul<sub>i</sub> [John-i [<sub>PP</sub> Mary-ka [<sub>NP</sub> e<sub>i</sub> ilk-un  
           which book-Acc               -Nom               -Nom               read-Rel

          salam-ul] mannaki ceney] [t<sub>i</sub> ilk-ess]-ni]?  
           person-Acc meet       before       read-Past-Q

          'Which book<sub>i</sub> did John read t<sub>i</sub> before Mary met  
           the person who read e<sub>i</sub>?'

(51a) shows that a relative clause is an island for scrambling. (51b), on the other hand, shows that the apparent PG with a relative clause does not result in the sentence being ungrammatical, suggesting that the gap in question is not a PG.

It has been argued that the so-called PGs in languages such as Korean and Japanese behave differently from those in English. An alternative analysis to be sought is that if the scrambled wh-phrases in (50b) and (51b) are in an A-position, then we can claim that the empty categories in these examples are empty pronouns rather than PGs, as Cho (1991), Lee (1991), and Saito (1992) suggest. In other words, the grammaticality of (50b) and (51b) can be accounted for by the following English example (Saito (1992:73)):

- (52) Everyone<sub>i</sub> seems to his<sub>i</sub> mother [t<sub>i</sub> to be smart]

Thus, the examples in (50b) and (51b), where empty pronouns occur in a Subjacency island within the adjunct clause and the expected WCO effects do not show up, provide crucial evidence that scrambling as A-movement leaves behind an NP-trace. That is, (50b) and (51b) are grammatical, since the empty pronouns in these examples are A-bound, and hence, can be licensed as bound pronouns. So far, we have argued that the scrambled phrase is in an A-position and that the so-called gaps in PG constructions in Korean are not in fact PGs but rather empty pronouns.

#### 5.5. Conclusion

In this chapter, along the lines of Saito (1989, 1992), I have argued that NP-movement can be freely reconstructed, since it does not establish a semantically significant operator and variable relation. To account for the distributional difference between fronted predicates and fronted nonpredicates with respect to binding theory, I have argued, following Huang (1993) and Mitchell (1993), that what is VP-fronted is not the bare VP, but the VoiceP. Furthermore, it was suggested that the fronted VoiceP contains the trace of the subject left by the movement, while the fronted non-predicates do not involve this type of trace. If this is the case, the fronted anaphor within VoiceP must be bound within VoiceP and will consequently not be coindexed with any outside elements. I have argued in section 5.3 that

peculiar binding effects and scope interpretation in psych-verb constructions can be accounted for by saying that the theme NP is reconstructed to its D-structure position. Moreover, it was argued that given assumptions made in syntax, peculiar binding effects of compounds involving psych-verbs can be straightforwardly accounted for, suggesting some interaction between morphology and syntax. I have suggested in section 5.4 that NP-movement can be freely reconstructed at LF in a vein similar to Saito (1989, 1992). Finally, it was claimed that the so-called PG constructions in Korean can be analyzed as an instance of empty pronouns bound by scrambled wh-phrases, i.e., an instance of a binding relation created by scrambling.

## CHAPTER 6 CONCLUDING REMARKS

In this dissertation, I have investigated LF movement, licensing, clausal structure within the framework of the principles and parameters approach and explored some theoretical consequences for clausal structure in Korean. My claim has crucially relied on two recent proposals: the split INFL hypothesis and the VP-internal subject hypothesis.

In chapter 2, I reviewed the previous analyses on the split INFL hypothesis and the VP-internal subject hypothesis, which play a crucial role in discussing clausal structure and NPI licensing in Korean. In so doing, several conceptual and empirical arguments for this hypothesis were presented. On the basis of distinctions between individual-level predicates and stage-level predicates, I have argued that two subject positions are necessary, implying the postulation of the VP-internal subject position.

In chapter 3, examining some issues related to functional categories and clausal structures, I have provided several pieces of evidence for positing AGR as a syntactic category in Korean. Next, it was suggested that the honorific marker -si and the plural marker -tul are realizations of [+AGR] in Korean. In accord with checking theory (Chomsky (1992)), I

have argued that subjects and objects are base-generated VP-internally and move to the Spec of  $AGR_sP$  and  $AGR_oP$ , respectively, to check Case under Spec-Head agreement with an AGR head. I have suggested that C is an independent syntactic head in Korean, based on Subjacency effects, scope interaction, and Spec-Head agreement. Specifically, to account for an agreement phenomenon of the wh-phrases and the wh-question sentence-final morpheme in a dialect of Korean, I have argued that LF wh-movement is triggered to participate in Spec-Head agreement, in accordance with the Wh-Criterion (Rizzi (1990b)). Examining two types of negation in Korean, I have shown that AGRP should be separated from TP, suggesting the postulation of the split IP structure. Further evidence that AGRP and NegP are independent maximal projections of functional categories and that subjects are base-generated VP-internally was presented in coordination facts between active and passive verbs.

In chapter 4, I have found two major distributional differences between English NPIs and Korean NPIs. First, the two languages differ with respect to restrictions imposed on subjects. Second, they differ with respect to the distance allowed between negation and the NPI. I have demonstrated that these two differences do not follow from the alleged c-command requirement at S-structure (Laka (1990, 1991)). On the other hand, to address this problem, I proposed an alternative analysis of the NPI licensing condition in terms

of the checking requirement through Spec-Head agreement at LF. That is, an NPI with the morphological feature [+Neg] must move to the Spec of NegP in order to be feature checked off. This contention is superior to c-command licensing in that it naturally accounts for the clause-mate requirement and the contrast between English and Korean NPIs. Along the same lines as Saito's (1989, 1992) claim that scrambling can be freely undone at LF, I have argued that the distributional differences between the scrambled and nonscrambled NPIs in Korean can be accounted for in terms of the proposed analysis. The thrust of my argument was crucially based on the fact that long-distance licensing of NPIs obeys several constraints such as the Complex NP constraint, the Specificity condition, and the Wh-island constraint, which might suggest that a movement analysis of NPIs based on the checking theory is correct.

In chapter 5, I was concerned with reconstruction effects of NP-movement with respect to binding theory and scope interpretation. I have shown that VP-movement behaves differently from wh-movement with regard to reconstruction possibilities. Regarding binding effects and scope interpretation in psych-verb constructions, I have claimed that the peculiar properties in those constructions can be explained by arguing that the theme NP is reconstructed to its D-structure position. Interestingly, along this line, I presented empirical consequences of the reconstruction of NP-movement in the caki 'self'-compound in Korean. This argument

is significant in the sense that word formation is not a separate component from syntax, but rather the same principles and parameters can account for both above and below word level. Finally, I have argued that NP-movement can be freely reconstructed at LF in the sense of Saito (1989, 1992). Furthermore, I have shown that both short-distance and long-distance scrambling can be an instance of A-movement and that the gaps in PG constructions in Korean are not in fact PGs but rather empty pronouns.

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Yeon-Jin Kwon was born on September 8, 1961, in Sanchung, Kyungsangnam-Do, Korea. He received a B.A. in English language and literature in 1985 and an M.A. in linguistics in 1987 from Pusan National University. After receiving the M.A., he served as an M.A. officer for six months in the Korean army. In March of 1988, he was employed as a full-time assistant in the department of English language and literature at Pusan National University and worked there until August of 1989. In the fall of 1989, he enrolled in the linguistics program at the University of Connecticut and in 1991 came to the linguistics program at the University of Florida. He married Hyoun-Joo Bae in May of 1989 and they have a son, Tae-Min.

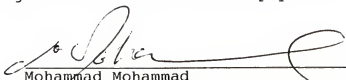
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August 1993

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